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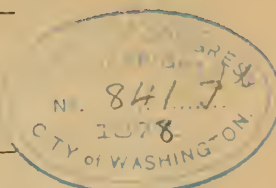
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HARNESS AND CARRIAGE JOURNAL ALMANAC.

1878.



Wm. N. FITZ-GERALD, Publisher, NEW YORK. P. O. Box 5,302.

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NOTICE.

The *Harness and Carriage Journal*, now in its 22d volume, is published about the 15th of each month.

SUBSCRIPTION PRICE PER ANNUM REDUCED TO \$2, IF PAID STRICTLY IN ADVANCE.

Subscribers who do not pay in advance will be charged the old rates.

To give our present subscribers an opportunity to benefit by the reduced rates we will accept \$2, in payment for the current year, from any who may not be more than six months in arrears, if the money is forwarded prior to Feb. 15, 1878. We also publish the *Harness Makers' Manuel*, price \$3. The *Harness Makers' Atlas*, price \$2 25. The two to one address, \$4 50. Sent only on receipt of price.

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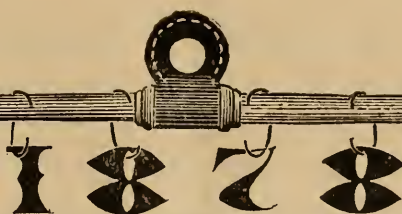
IRONWORK OF CARRIAGES.

Table of Kinds and Sizes of Iron Used in Constructing a 125 Pound Road Wagon on Half Springs; Piano Box Body, 3 feet 10 inches Long, 1 foot 7 inches Wide, and 6 1-2 inches Deep; Seat 1 foot 9 1-2 inches Long; Hung Upon Side Bars or Spars 1 1-4 inches; Arch 1 1-8 inches Deep in Center, and 3-4 by 7-8 inch at Ends; Perches 4 feet 1 inch Long.

<i>Sectional Parts.</i>	<i>Metal.</i>	<i>Shape.</i>	<i>Size.</i>
Axles, nut.....	Steel.	Straight.	5 ⁸ x6 inches.
Piece part, front.....	B. B. iron.	.....	1x1 ¹ / ₂ inches.
Piece part, back.....	B. B. iron.	.....	1x ⁵ / ₈ inch.
Beds, full length.....	.....	.....	3 ft. 4 inches.
Springs.....	.....	.....	1 ¹ / ₈ inches.
Length from center of bar bearings.....	} Swedes steel, oil temper.	} Half elliptic, 2 plates.	21 inches.
Plates.....			No. 5.
Fifth wheel.....	Norway iron.	Half circle.	9 inches.
Plates.....	.....	Half round.	1 ¹ / ₂ inch.
Bolts.....	Norway iron.	.....	1 ¹ / ₈ inch.
Head plates.....	Norway iron.	Flat.	5 ⁸ x1 ¹ / ₈ inch.
Bolts.....	Norway iron.	.....	1 ¹ / ₈ inch.
Shaft irons.....	Ulster iron.	Swaged.	1 ¹ / _{8x3-16 inch.}
Length front of bar.....	.....	.....	6 inches.
Length on bar.....	.....	.....	5 inches.
Bolts.....	Norway iron.	Round heads.	1 ¹ / ₄ inch.
Jack clips.....	Norway iron.	Saunders.	No. 1.
Clip part.....	.....	Flat.	5 ⁸ inch.
Bolt part.....	.....	Round.	3-16 inch.
Axle, heel part.....	.....	Flat.	1 inch.
Perch plates.....	Norway iron.	Flat.	5 ⁸ x1 ¹ / ₈ inch.
Heel clips, length bottom.....	Norway iron.	Flat.	10 inches.
Heel clips, length top.....	Norway iron.	Flat.	6 inches.
Bolts.....	Norway iron.	.....	1 ¹ / ₈ inch.
Side stays.....	B. B. iron.	Oval.	3 ⁸ x3-16 inch.
Ends.....	Norway iron.	.....	.....
Bolts, front.....	Norway iron.	Square heads.	1 ¹ / ₈ inch.
Bolts at butts.....	Norway iron.	Square heads.	3-16 inch.
Clip king bolt.....	Norway iron.	Strap.	5 ⁸ inch.
Bolt part.....	.....	.....	7-16 inch.
Risers for side bars.....	Ger'n cast steel.	.....	1x7-16 inch.
Tire.....	Steel.	.....	5 ⁸ x3-32 inch.
Bolts at joints.....	Norway iron.	.....	1 ¹ / ₈ inch.
Screws.....	.....	.....	5 ⁸ No. 8.
Step pads.....	Norway iron.	Square.	3x3 ¹ / ₄ inches.
Shank.....	Ulster iron.	Oval.	7 ⁸ x7-16 inch.
Back stays.....	Ulster iron.	Round.	3 ⁸ inch.
Bolts.....	Norway iron.	.....	1 ¹ / ₄ inch.
Dash, hight.....	.....	.....	10 inches.
Main and bottom bars.....	.....	Oval.	1 ¹ / ₂ x1 ¹ / ₄ inch.
Other bars.....	.....	Oval.	3 ⁸ x1 ¹ / ₄ inch.
Heels.....	Norway iron.	.....	1 ¹ / ₄ x ³ / ₄ inch.
Foot rod.....	Ulster iron.	Oval.	1 ¹ / ₂ x5-16 inch.
Seat stays.....	Ulster iron.	Oval.	3 ⁸ x3-16 inch.
Wear iron, length.....	Steel.	Flat.	4 ¹ / ₂ inches.

In giving the kinds of metals the best qualities and the peculiar grade of iron best adapted to each part have been selected. These grades may not always be accessible; when this is the case select a brand that approximates nearest to the one specified; in place of B. B. iron for piece part to axle beds use L. W. or Burden's. Norway is the most tenacious and malleable iron used by carriage makers, and should always be kept in stock. Where Norway is recommended, and it cannot be had, substitute Ulster, but do not substitute Norway for Ulster, as it is not stiff enough; Burden's or B. B. should be used instead. Let Norway, B. B., Ulster and Burden's be the standard, always selecting the brands that are nearest possessing their peculiar qualities when these are not available.

When lengths and widths are omitted, these are dependent upon the size of the frame or other portion to which the irons are attached.



JANUARY.

Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.
.....	.....	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	.....	.....
.....

Legal Holiday.—New Year's Day, 1st.
Jewish Calendar.—5638. 5, Rosh Hodesh Shebat.

ECLIPSES.

In the year 1878 there will be four Eclipses, two of the Sun and two of the Moon, and a Transit of Mercury over the Sun's disc.

I. An Annular Eclipse of the Sun, February 2, Washington mean time, invisible in the northern hemisphere, but visible in Australia, and around the South Pole.

II. A Partial Eclipse of the Moon, on the Northern Limb, February 17, partly visible in the United States, as follows: At Washington, Eclipse begins 4h. 34m. 7s. mo.

III. A Total Eclipse of the Sun, July 29, visible in the United States as a partial eclipse. At the entrance of Sabine river, on the Gulf of Mexico, and near the border between Louisiana and Texas, the eclipse is total. Eclipse begins at New York City, 4h. 47m. 4s. ev., Albany, N. Y., 4h. 45m. 7s. ev., Chicago, 3h. 42m. 3s. ev., Washington, 4h. 36m. 4s. ev., New Orleans, 3h. 50m. 9s. ev., Galveston, Tex., 3h. 29m. 6s. ev., Santa Fe, N. Mexico, 2h. 26m. 7s. ev.

IV. A Partial Eclipse of the Moon August 12, partly visible in the United States, as follows: At Washington, D. C., Eclipse begins at 5h. 34m. 3s. ev., New York, 5h. 46m. 6s. ev.

V. There will be a Transit of Mercury over the Sun's disc, May 6, visible in the United States, as follows:

	Washington, D. C.	New York City.	New Orleans, La.
Ingress, 1st exterior contact.	10h. 4m. 28s. mo.	10h. 16m. 45s. mo.	9h. 12m. 34s. mo.

CUTTINGS FOR HARNESS.

Lengths and Widths for Breast Collar Road Harness, Breast Collar Body and Traces in One.

BRIDLES.		
	Width, inches.	Length, inches.
Crown	1	22
Cheeks	1 $\frac{1}{2}$	22
Winker strap	7 $\frac{7}{8}$ x1 $\frac{1}{2}$	12
Split	3 $\frac{3}{8}$	8
Front, made up	5 $\frac{5}{8}$	12
Throat latch	1 $\frac{1}{2}$	28
Gag reins	3 $\frac{3}{4}$	24
Center piece	3 $\frac{3}{4}$	58
Billets	3 $\frac{3}{4}$	11
TRACES AND BREAST COLLAR IN ONE.		
Trace	1	81
Neck piece	3 $\frac{3}{4}$ x1 $\frac{1}{2}$	48
Neck piece body	1 $\frac{1}{2}$	27
Breast collar body	2	40
Martingale	5 $\frac{5}{8}$	41
Martingale body	1 $\frac{1}{2}$	32
Bottom lay	5 $\frac{5}{8}$	19
SADDLE.		
Tree	—	23 $\frac{3}{4}$
Back Band	7 $\frac{7}{8}$	20
Shaft tug	7 $\frac{7}{8}$	19
Inside belly band	3 $\frac{3}{4}$	22
Body	1 $\frac{1}{2}$	16
Outside belly band	3 $\frac{3}{4}$	28
Billets	3 $\frac{3}{4}$	20
Body	1 $\frac{1}{2}$	28
BREECHING.		
Breeching layer	7 $\frac{7}{8}$, 5 $\frac{5}{8}$	45
Body	13 $\frac{3}{4}$	36
Breeching straps	3 $\frac{3}{4}$	48
Hip straps	1 $\frac{1}{2}$	40
Breeching tugs	1 $\frac{1}{2}$	11
Turnback	5 $\frac{5}{8}$	44
Dock	3 $\frac{3}{4}$	16
Reins	3 $\frac{3}{4}$	72
Billets	3 $\frac{3}{4}$	14
Hand parts	1 $\frac{1}{4}$	80
MOUNTINGS.		
1 23 $\frac{3}{4}$ or 3-inch Saddle Tree.	13 1 $\frac{1}{2}$ -inch Bridle Buckles.	
1 pair 13 $\frac{3}{8}$ -inch Band Terrets.	1 5 $\frac{5}{8}$ -inch Bridle Buckle.	
1 No. 4 Band Bolt Hooks.	4 5 $\frac{5}{8}$ -inch Harness Buckles.	
4 Saddle Nails.	2 3 $\frac{3}{4}$ -inch Harness Buckles.	
1 No. 2 Fly Terret.	4 3 $\frac{3}{4}$ -inch Roller Harness Buckles.	
2 1 $\frac{1}{2}$ -inch Gag Swivels.	2 1 $\frac{1}{2}$ -inch Harness Rings.	
1 pair 13 $\frac{3}{8}$ -inch Martingale Rings.	6 5 $\frac{5}{8}$ -inch Harness Rings.	
1 pair 1 $\frac{1}{4}$ -inch Breeching Rings.	1 pair Rosettes.	
1 pair 1-inch Trace Buckles.	1 Bit.	
1 pair 7 $\frac{7}{8}$ -inch Tug Buckles.	1 Front.	

Stitch the traces 14 stitches to the inch, all other straps 16 stitches to the inch, using 4 strands of No. 5 thread. Harness leather, cut stock, 10 pounds.

The numbers in the tables of mountings represent sizes $\frac{1}{8}$ of an inch smaller than the ring of the terrets.

—The Harness Makers' Manual and Atlas, two volumes, sent to one address on receipt of \$4 50.

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1878

FEBRUARY.

Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

Legal Holiday.—Washington's Birthday, 22d.

Church Holidays.—Septuagesima Sunday, 17th; Sexagesima Sunday, 24th.

Jewish Calendar.—5638. 3, 4, Rosh Hodesh Adar Rishon.

FOREIGN TARIFFS.

GREAT BRITAIN.

All articles in the carriage and harness lines free.

GERMAN EMPIRE.

Carriages and sleighs, unpainted, free; oiled or colored, 3 marks per 100 lbs.; trimmed and painted, 150 marks per 100 lbs.; harness, 21 marks per 100 lbs.; saddlery, plain, 12 marks; fancy, 21 marks per 100 lbs.; patent leather, 15 marks per 100 lbs.; other leather, curried, 6 marks per 100 lbs.; trunks, wooden, covered with linen, varnished, 12 marks per 100 lbs.; trunks, sole leather, 12 marks per 100 lbs.; all other, 21 marks per 100 lbs.; saddlery hardware of all kinds, 21 marks per 100 lbs.; carriage materials, wheels, etc., free. Sixteen pounds per hundred is deducted from the weight when the articles are packed in boxes.

FRANCE.

Carriages, leather, and goods manufactured of leather, other than harness, are prohibited; if a contract is signed declaring the intention of the importer to take them out of the country, they can be admitted by paying such duties as the authorities may determine on; harness, 10 per cent. on value; saddlery, each piece is charged 12 centimes unless the package weighs 200 pounds, in which case the charge is 3 francs per kilogram, or fraction thereof.

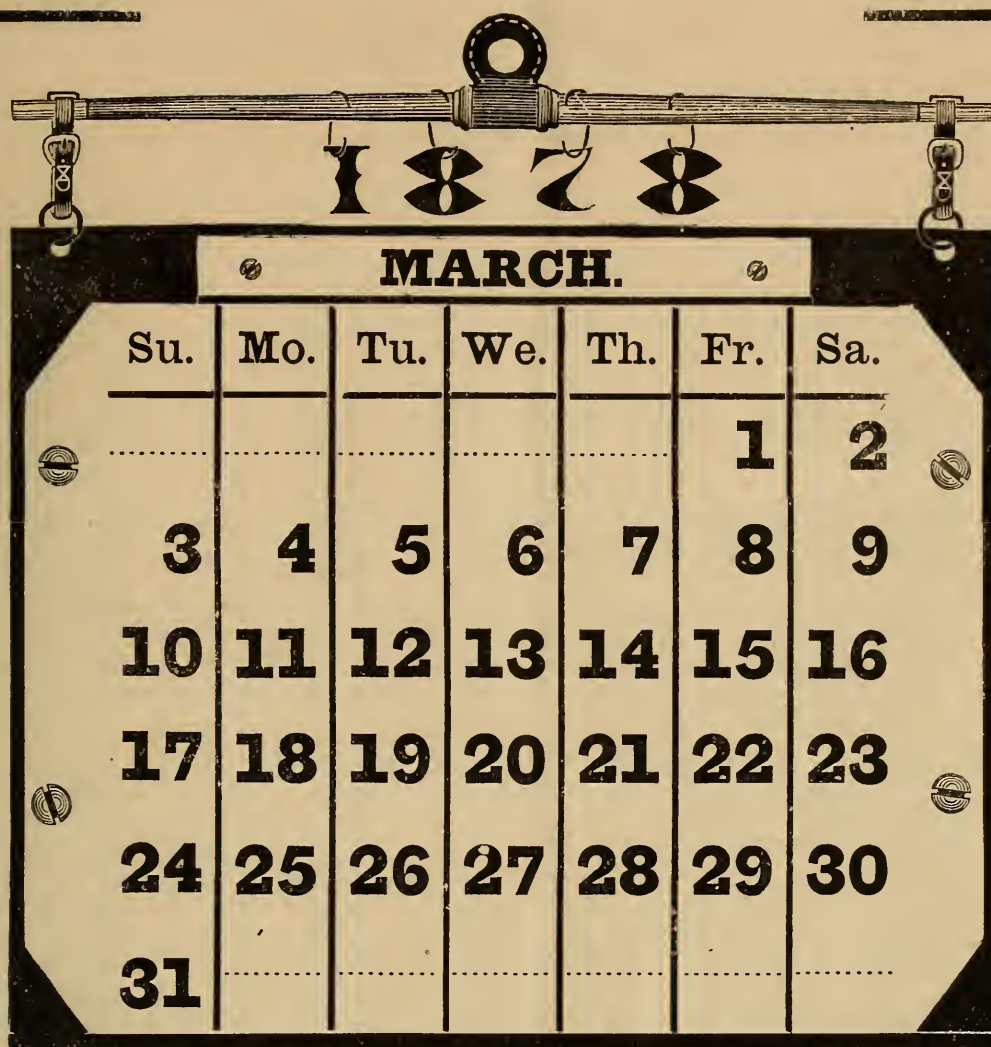
IRONWORK OF CARRIAGES.

Table of Kinds and Sizes of Iron Used in Constructing a Square Box Shifting Rail Top Buggy, Weighing About 240 Pounds.

<i>Sectional Parts.</i>	<i>Metal.</i>	<i>Shape.</i>	<i>Size.</i>
Axles, nut	Steel.	Plain taper.	7 $\frac{1}{2}$ x6 $\frac{1}{2}$ inches.
Piece part	B. B. iron.	Bar.	3 $\frac{1}{4}$ x1 $\frac{1}{8}$ inches.
Length			3 ft. 8 inches.
Springs, three plates	Swedes steel.	Elliptic, spear point top plates, square ends on bottom plates, button heads.	1 $\frac{1}{4}$ inches.
Front, length			32 inches.
Open			8 inches.
Main and second plates			No. 4.
Additional plates			No. 5.
Back, length			32 inches.
Open			8 $\frac{1}{2}$ inches.
Main plate			No. 3.
Additional plates			No. 4.
Fifth wheel	Norway iron.	Star pattern.	12 inches.
Fifth wheel at bearings			7 $\frac{1}{8}$ inch.
Shaft iron heads	Burden's iron.		1 $\frac{1}{4}$ inches.
Bolts	Norway iron.	Square head.	7-16 inch.
Ears of jack clips	Norway iron.		7-16 inch.
Shaft irons	Burden's iron.	Flat oval.	1 $\frac{1}{4}$ x5-16 inch.
Bolts	Norway iron.	Steeple heads.	1 $\frac{1}{4}$ inch.
Jack clips	Norway iron.	Flat.	1 inch.
Screw ends	Norway iron.	Round.	5-16 inch.
Additional clips	Norway iron.	Flat.	7 $\frac{1}{8}$ inch.
Screw ends	Norway iron.	Round.	1 $\frac{1}{4}$ inch.
Perch plate ends	Norway iron.	Bar.	3 $\frac{1}{4}$ x $\frac{1}{4}$ inch.
Center	Ulster iron.	Flat.	3 $\frac{1}{4}$ x1-16 inch
Bolts	Norway iron.	Steeple heads.	3-16 inch.
Side stays	B. B. iron.	Oval.	1 $\frac{1}{4}$ x $\frac{1}{2}$ inch.
Ends at heels	Norway iron.	Square.	1 $\frac{1}{4}$ x $\frac{1}{2}$ inch.
Head block bolt	Norway iron.	Turned heads.	3-16 inch.
Bolts at stay branch	Norway iron.	Turned heads.	1 $\frac{1}{4}$ inch.
Bolts for front end	Norway iron.	Turned heads.	3-16 inch.
Spring and spring bar clips	Norway iron.	Flat.	5 $\frac{1}{8}$ inch.
Ends	Norway iron.	Round.	5-16 inch.
Clip king bolt at head plate	Norway iron.	Round.	7-16 inch.
Spring section	Norway iron.	Round.	3 $\frac{1}{8}$ inch.
Body loops	Ulster iron.	Oval.	1x $\frac{1}{2}$ inch.
At head		Oval.	3 $\frac{1}{4}$ x3 $\frac{1}{8}$ inch.
Head		Round.	7 $\frac{1}{8}$ x7 $\frac{1}{8}$ inch.
Center piece	Best strap iron.	Flat.	3-16x1 inch.
Bolts for head	Norway iron.	Steeple heads.	5-16 inch.
Bolts at butt	Norway iron.	Turned heads.	1 $\frac{1}{4}$ inch.
Screws for center piece			1 inch No. 12.
Tire	Steel.	Flat.	7 $\frac{1}{8}$ x $\frac{1}{8}$ inch.
Bolts	Norway iron.	Tire.	3-16 inch.
Step pads, main	Norway iron.	Flat jagged.	3 $\frac{1}{4}$ x3 $\frac{1}{2}$ inch.
Shank	Ulster iron.	Oval.	3 $\frac{1}{8}$ x3 $\frac{1}{8}$ inch.
Pads, top	Norway iron.	Flat jagged.	3x3 $\frac{1}{4}$ inches.
Shank	Ulster iron.	Oval.	3 $\frac{1}{8}$ x3 $\frac{1}{8}$ inch.
Dash, high			10 inches.
Main and bottom bars	B. B. iron.	Oval.	1 $\frac{1}{2}$ x5-16 inch.
Top and center bars	B. B. iron.	Oval.	1 $\frac{1}{2}$ x $\frac{1}{4}$ inch.
Foot rod	Ulster iron.	Oval.	5 $\frac{1}{8}$ x3 $\frac{1}{8}$ inch.
Stump joints, bottom prop	B. B. iron.		1 $\frac{1}{2}$ x3 $\frac{1}{8}$ inch.
Piece part	Norway iron.	Oval.	3 $\frac{1}{8}$ x3 $\frac{1}{8}$ inch.
Front prop	B. B. iron.		3 $\frac{1}{8}$ x $\frac{1}{2}$ inch.
Piece part	Norway iron.	Oval.	3 $\frac{1}{8}$ x $\frac{1}{2}$ inch.
Hub bands	Norway iron.	Central Park.	2x $\frac{1}{8}$ inch.
Felloe plates	Norway iron.		
Slat irons	Norway iron.	New York pattern.	
Shifting rail	Norway iron.	Round.	3 $\frac{1}{8}$ and $\frac{1}{2}$ in.

—If the harness maker wishes to keep track of the improvements made in the harness trade he should send us \$2, and we will send him the *Harness and Carriage Journal*, post paid, for one year. He should also buy the *Harness Makers' Manual* and *Harness Makers' Atlas*. Price, post paid, \$4 50, in advance.

For our address see title page.



Church Holidays.—Quinquagesima Sunday, 3d; Ash Wednesday, 6th; Quadragesima Sunday, 10th; Mid Lent, 31st.
Jewish Calendar.—5638. 18, Fast of Esther. 19, 20, Purim.

FOREIGN TARIFFS.

ARGENTINE REPUBLIC.

The general rates on all articles in the carriage or harness lines is 40 per cent. on value at port of delivery.

EMPIRE OF BRAZIL.

Leather of all kinds, varnished or plain, 20 per cent. Saddlery, harness and materials thereof, Trunks and bags 30 per cent.

Saddlery, when ornamented with gold or silver mountings, is liable to double duty. Head stalls without reins half duty, with two pair 25 per cent. additional. Paints and colors 10 per cent.

Saddle trees and trunks 30 per cent.

Curry combs, carriage hardware, axletrees, horse gear (bits, stirrups, etc.), saddlery hardware, 30 per cent. Ornamented bits 20 per cent. extra. Iron manufactures, when electro plated with gold or silver, 50 per cent. extra.

Carriages of all kinds, and woodwork thereof, 30 per cent. Wagons free.

Coaches are valued at 500 milreis—about \$272, four-wheeled carriages 300 milreis, and two-wheeled 150 milreis.

REPUBLIC OF CHILI.

Carriages 25 per cent. Wagons 15 per cent. *ad valorem*. All other articles in the carriage, harness or saddlery lines pay 25 per cent., excepting tools; these are charged 15 per cent.

HARNESS CUTTINGS.

Buggy Harness.

BRIDLE.

	Width, inches.	Length, inches.
Crown piece.....	$1\frac{1}{8}$	23
Cheeks.....	$\frac{5}{8}$	27
Winker straps.....	$1\frac{1}{8} \times 1\frac{1}{2}$	12
Gag Rein.....	$\frac{3}{4}$	24
Center piece.....	$\frac{5}{8}$	60
Billets.....	$\frac{3}{4}$	11
Front, made up.....	$\frac{5}{8}$	21
Throat latch.....	$\frac{1}{2}$	30
Winker.....	$4\frac{1}{2}$	$4\frac{3}{4}$

HAMES, ETC.

Hame tugs.....	$1\frac{1}{8}$	13
Hame straps, short.....	$\frac{5}{8}$	17
Hame straps, long.....	20	$\frac{5}{8}$
Traces.....	$1\frac{1}{8}$	78
Breeching body.....	4	38
Layer.....	$\frac{7}{8}$	44
Hip straps.....	$\frac{3}{4}$	42
Breeching strap.....	$\frac{7}{8}$	48
Breeching tugs.....	$\frac{7}{8}$	11

SADDLE.

Saddle.....		$3\frac{1}{2}$
Back band.....	1	20
Shaft tug.....	1	19
Inside belly band fold.....	$3\frac{1}{2}$	17
Layer.....	$\frac{7}{8}$	22
Shaft girth fold.....	$3\frac{1}{2}$	29
Layer.....	$\frac{7}{8}$	29
Billets.....	$\frac{7}{8}$	22
Martingale fold.....	3	33
Layer.....	$\frac{7}{8}$	42
Bottom lay.....	$\frac{7}{8}$	19
Reins.....	$\frac{7}{8}$	72
Billets.....	$\frac{7}{8}$	14
Hand parts, folds.....	3	84
Layer.....	$\frac{7}{8}$	84
Billets.....	$\frac{7}{8}$	10

MOUNTINGS.

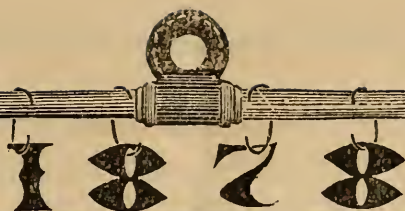
1 $3\frac{1}{2}$ inch Saddle Tree.	2 $\frac{1}{2}$ -inch Harness Buckles.
1 pair $1\frac{1}{2}$ -inch Band Terrets.	4 $\frac{5}{8}$ -inch Harness Buckles.
1 No. 5 Band Bolt Hook.	1 $\frac{3}{4}$ -inch Harness Buckle.
4 Saddle Nails.	2 $\frac{7}{8}$ -inch Harness Buckles.
1 No. 3 Fly Terret.	4 $\frac{7}{8}$ -inch Roller Buckles.
2 $\frac{1}{2}$ -inch Gag Swivels.	2 $\frac{1}{2}$ -inch Harness Rings.
2 $1\frac{1}{2}$ -inch Martingale Rings.	4 $\frac{5}{8}$ -inch Harness Rings.
1 $\frac{1}{3}$ Breeching Rings.	2 Rosettes.
2 $1\frac{1}{8}$ -inch Trace Buckles.	1 Bit.
2 1-inch Tug Buckles.	1 Front.
13 $\frac{1}{2}$ -inch Bridle Buckles.	1 pair 11-16-inch Hames.
1 $\frac{5}{8}$ -inch Bridle Buckle.	

Stitch 10 and 12 stitches to the inch, using 4 strands No. 5 thread.
Harness leather, cut stock, 9 pounds.

—The *Harness and Carriage Journal* is just what is needed in every carriage and harness factory. Subscription price, \$2 per year, if paid strictly in advance. Specimen copies sent on receipt of 20 cents.

—We are now prepared to furnish fine advertising charts, 17x22 inches, printed on fine card board, at \$25 per hundred, \$15 for fifty; single copies, 50 cents.

Our address is printed on title page.



APRIL.

Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.
.....	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	.....	.....	.....	.....
.....

Church Holidays.—Palm Sunday, 14th ; Good Friday, 19th ; Easter Sunday, 21st ; Low Sunday, 28th.

Jewish Calendar.—5638. 18, 19, Pesah, 2 first days. 24, 25, 2 last days.

FOREIGN TARIFFS.

UNITED STATES OF COLOMBIA.

The tariff is divided into four classes ; all goods pay duty by weight ; 1 kilogram equals 2½ pounds. Wheels, axles, springs and ironwork for carts free ; varnish, glue, blacking, carriages, cars, harness leather, paints and tools pay 5 cents per kilogram.

BRITISH HONDURAS.

Carriages, harness, saddlery, trunks and leather pay 2 per cent. *ad valorem* on amount of invoice, with charges and freight.

REPUBLIC OF VENEZUELA.

Railroad cars, carriages of all kinds, omnibuses, etc., and harness belonging to the same, free.

Manufactured leather, not specified with other duty, \$1 per kilogram, gross weight.

Trunks, empty, 25c per kilogram, gross weight.

Carriage materials, of iron or copper, 15c per kilogram, gross weight.

Leather, varnished (patent), 50c per kilogram, gross weight.

Varnish of all kinds, 15c per kilogram, gross weight.

BRITISH GUIANA.

Paints of all kinds 25 cents per 112 pounds. Varnish \$2 per gallon. All other articles in the carriage and harness lines 10 per cent. *ad valorem*.

IRONWORK OF CARRIAGES.

Table of the Kinds and Sizes of Irons Used in Constructing a Doctor's Phaeton Weighing about 425 Pounds. Width on Seat, 32 Inches.

<i>Sectional Parts.</i>	<i>Metal.</i>	<i>Shape.</i>	<i>Size.</i>
Axles, nut.....	Case hardened.	Plain taper.	1 ¹ / ₈ x7 inches.
Piece part.....	B. B. iron.	Square.	1x1 ¹ / ₄ inches.
Springs, four plates.....	Swedes steel.	Elliptic, round point.	1 ¹ / ₂ inches.
Front, length.....			37 inches.
Open.....			8 ¹ / ₂ inches.
Main and second plates.....			No. 3.
Additional plates.....			No. 4.
Back, length.....			39 inches.
Open.....			10 inches.
Plates.....			No. 4.
Fifth wheel.....	Norway iron.	Half circle.	16 inches.
Fifth wheel at bearing.....			1 inch.
Shaft iron heads.....	Burden's iron.		1 ¹ / ₂ inches.
Bolts.....	Norway iron.	Cone head.	1 ¹ / ₂ inch.
Ears of jack clips, thick.....	Norway iron.		1 ¹ / ₂ inch.
Shaft irons.....	Burden's iron.	Flat oval.	1 ³ / ₈ x5-16 inch.
Bolts.....	Norway iron.	Turned heads.	5-16 inch.
Jack clips.....	Norway iron.	Flat.	1 ¹ / ₂ inches.
Screw ends.....	Norway iron.	Round.	3 ⁸ / ₈ inch.
Axle clips.....	Norway iron.	Flat.	1 ¹ / ₄ inches.
Screw ends.....	Norway iron.	Round.	5-16 inch.
Perch plate, bottom, ends.....	Norway iron.	Flat.	5-16x1 ¹ / ₄ inch.
Perch plate, bottom, center.....	Ulster iron.	Flat.	5-16x1 ¹ / ₄ inch.
Perch plate, top.....	Norway iron.	Flat.	5-16x ⁷ / ₈ inch.
Perch plate, swaged.....		Half oval.	1 inch.
Perch bolt.....	Norway iron.	Cone head.	5-16 inch.
Side stays, main.....	B. B. iron.	Oval.	7-16x ³ / ₄ inch.
Side stays, inside.....	B. B. iron.	Oval.	3 ⁸ / ₈ x ⁵ / ₈ inch.
Side stays, ends at heels.....	Norway iron.	Flat.	3 ⁴ / ₄ inch.
Bolts at head block.....	Norway iron.	Cone heads.	5-16 inch.
Bolts at branch of stays.....	Norway iron.	Flat heads.	3 ⁸ / ₈ inch.
Bolts for front end.....	Norway iron.	Flat heads.	1 ¹ / ₄ inch.
Spring and spring bar clips.....	Norway iron.	Flat.	1 inch.
Ends.....	Norway iron.	Round.	3 ⁸ / ₈ inch.
Clip king bolt.....	Norway iron.		No. 3.
At head plate.....		Round.	5 ⁸ / ₈ inch.
Spring section.....		Round.	7-16 inch.
Boss to fifth wheel stay.....	Norway iron.	Round.	3 ⁴ / ₄ inch.
Body loops, front.....	Ulster iron.	Oval.	1 inch.
Back.....	Ulster iron.	Oval.	1 1-16 inches.
Head at base.....			1 ¹ / ₈ inches.
Bolts for heads.....	Norway iron.	Cone heads.	7-16 inch.
Bolts at butts.....	Norway iron.	Round heads.	3 ⁸ / ₈ inch.
Additional bolts.....	Norway iron.	Round heads.	5-16 inch.
Tire.....	Compound iron.		1 ¹ / ₄ x5-16 inch.
Tire.....	Steel.		1 ¹ / ₄ x ¹ / ₄ inch.
Tire bolts.....	Norway iron.	Tire.	1 ¹ / ₄ inch.
Step pads.....	Norway iron.	Gridiron.	4 ¹ / ₂ x5 inches.
Shanks.....	Ulster iron.	Octagon and round.	3 ⁴ / ₄ inch.
Dash.....	B. B. iron.	Oval.	16 in. high.
Dash, outside and top bars.....	B. B. iron.	Oval.	3 ⁴ / ₄ x7-16 inch.
Dash, inner bars and handles.....	B. B. iron.	Oval.	5 ⁸ / ₈ x3 ⁸ / ₈ inch.
Foot rod.....	Ulster iron.	Oval.	1 ² / ₂ x ⁷ / ₈ inch.
Stump joints, bottom prop.....	B. B. iron.		5 ⁸ / ₈ x ⁷ / ₈ inch.
Piece part.....	Norway iron.	Oval.	1 ² / ₂ x ⁷ / ₈ inch.
Front prop.....	B. B. iron.		1 ² / ₂ x ³ / ₄ inch.
Piece part.....	Norway iron.	Oval.	3 ⁸ / ₈ x ³ / ₄ inch.
Hub bands.....		Band.	3-16x2 inches.
Rocker plates.....	L. W. iron.	Flat.	3 ⁸ / ₈ x2 inches.
Screws.....			No. 16.

—It has cost us 30 per cent. to collect our subscription claims during the past year. Subscribers who send us \$2 in advance hereafter can save 33¹/₃ per cent. We prefer giving it to them to paying it out in other ways in efforts to collect.



Church Holidays.—Rogation Sunday, 26th ; Ascension Day, 30th.

Legal Holiday.—Decoration Day, 30th.

Jewish Calendar.—5638. 4, Rosh Hodesh Iyar.

FOREIGN TARIFFS.

AUSTRALIA.

Carriages and carts, 20 per cent. *ad valorem* ; leather, 10 per cent. *ad valorem* ; anvils, axles, bolts and nuts, bridle hooks, ironwork for wagons, carriages, carts, etc., springs and truck wheels, 20 per cent.

Saddles and harness, articles made of leather, such as whips, trunks, portmanteaus, etc., varnish, 20 per cent. *ad valorem*.

Brass trunk locks, nails and buckles, hickory and ash in the rough, saddle trees, saddlery, patent leather, whip mountings, buckles, and mountings for harness other than silver, free.

NEW ZEALAND.

All measurements taken outside the packages, but not so as to include battens, bands or hoops. Axles, axle arms and boxes, 2s. per hundred weight ; blacking, per cubic foot, 1s. ; carriages, carts, drays and wagons, 5 per cent, *ad valorem* ; carriage and cart wheels, 5s. per pair ; harness, per cubic foot, 2s. ; leather, other than sole, 2d. per pound ; saddlery, per cubic foot, 3s. ; varnish, per gallon, 6d. ; wheels, per pair, 5s. ; whips, per cubic foot, 1s. Among the exempted articles are carriage springs, mountings and trimmings and iron work.

BRITISH COLUMBIA.

Carriages, patent and enameld leather, paints, saddlery and varnish 15 per cent.

CUTTINGS FOR HARNESS.

Double Road Harness with Breast and Round Collar.

BRIDLE.		
	Width, Inches.	Length, Inches.
Crown piece.....	1 ¹ / ₈	82
Cheeks.....	5 ₈	29
Throat strap.....	1 ₂	26
Front, made up.....	3 ₄	12 ¹ / ₂
Winker strap.....	1 ³ / ₈ and 5 ₈	12
Winker strap, split.....	1 ₂	8
Winkers.....	5 ¹ / ₂	4 ³ / ₄
Check.....	3 ₄	29
Center part.....	5 ₈	60
Billet.....	5 ₈	10
COLLAR AND HAMES.		
Hames.....	11-16	
Hame strap.....	3 ₈	24
Hame tug.....	1 ¹ / ₈	13
Trace.....	1 ¹ / ₈	80
Loop on hame tug.....	1 ¹ / ₈	4 ³ / ₄
Spread strap.....	3 ₈	18
Hame chain (link).....		5 ¹ / ₂
PADS.		
Pad top, straight.....	1 ³ / ₈	16
Sides.....	1 ³ / ₈	35
Points.....	7 ₈	9
Housing.....	3 ¹ / ₂	23
Trace bearer.....	1	16
Belly band.....	1 ⁷ / ₈	17
Layer.....	1	23
Turnback.....	1 ³ / ₄ and 3 ₄	44
Dock.....	3	14
Standing martingale.....	7 ₈	65
Chin piece.....	3 ₄	12
MOUNTINGS.		
4 1 ³ / ₈ -inch Band Terrets.	4 1 ¹ / ₂ -inch Harness Buckles.	
2 No. 4 Band Pad Hooks, or No. 3 Fly Hooks.	6 5 ₈ -inch Harness Buckles.	
4 Pad Screws.	2 3 ₄ -inch Harness Buckles.	
2 3 ₄ -inch Crupper Loops.	4 7 ₈ -inch Roller Harness Buckles.	
1 set 11-16 Hames.	6 7 ₈ -inch Rein Buckles.	
1 pair 1 ³ / ₈ -inch Hame Rings.	4 1 ¹ / ₂ -inch Harness Rings.	
2 Links.	4 Rosettes.	
2 No. 3 Fly Terrets.	2 Bits.	
4 1 ₂ -inch Gag Swivels.	2 Fronts.	
2 1 ³ / ₈ -inch Martingale Rings.	If with standing martingales add	
4 1 ¹ / ₈ -inch Trace Buckles.	4 3 ₈ -inch Bridle Buckles.	
24 1 ₂ -inch Bridle Buckles.	2 5 ₈ -inch Harness Buckles.	
2 5 ₈ -inch Bridle Buckles.	And deduct the Martingale Rings.	
	Add Trace Loops if desired.	

Stitch the traces 12, all other straps excepting the patent leather 14 stitches to the inch; use No. 5 thread, four strands. Harness leather, cut stock, 18 pounds.

—The Harness Makers' Manual is the only book of the kind printed in the English language. It contains tables of lengths, etc., for cutting twenty-four different kinds of harness, general directions for cutting and fitting harness leather, and recipes for blacks, stains, etc. 350 pages, 300 illustrations. Price, post paid, \$3, in advance.

—Collectors are expensive luxuries and we have decided to give subscribers an opportunity to save the collector's commissions by reducing the subscription price of the *Harness and Carriage Journal* to \$2 per annum, when paid strictly in advance. Read notice on title page.

—The Harness Makers' Atlas contains five full sets of harness patterns with directions for mounting, etc. Price, post paid, \$2 25, in advance.

Address as directed on title page.

1878

JUNE.

Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

Church Holidays.—Whit Sunday, 9th; Trinity Sunday, 16th; Corpus Christi, 20th.

Jewish Calendar.—5638. 6, 7, Sivan.

FOREIGN TARIFFS.

REPUBLIC OF MEXICO.

Carriages. The duties are levied upon each kind of carriage. The lowest rate being \$66 each, the highest \$200 each, the latter being on omnibuses, \$150 is the highest charge on pleasure carriages; harness, common, 86c per kilogram, gross weight; harness, fine, \$2 per kilogram, gross weight; saddlery, 55 per cent. *ad valorem*.

CUBA.

Owing to the peculiar classification of the Cuban tariff, the special rules cannot be given.

ISLAND OF ST. THOMAS.

On all goods discharged, a duty of $1\frac{1}{4}$ per cent. on the invoice value of.

BAHAMA ISLANDS.

All articles in the lines of harness, carriages and saddlery, 15 per cent.

ISLAND OF BARBADOES.

Harness, carriages, saddlery, trunks, leather, 3 per cent., *ad valorem*.

ISLAND OF JAMAICA.

Carriages, carts and wagons free; harness, saddlery, trunks, etc., pay for every £100 value £12 10s.

INDIA.

Carriages, 7 per cent. *ad valorem*; leather and manufactures thereof, including harness and saddlery, $7\frac{1}{2}$ per cent.

JAPAN.—Leather per 100 catties 2 bs.

IRONWORK OF CARRIAGES.

**Table of Kinds and Sizes of Iron Used in Constructing a Pony Phaeton
on Two Springs, 4 feet 8 inch or 4 feet 10 inch Track.**

<i>Sectional Parts.</i>	<i>Metal.</i>	<i>Shape.</i>	<i>Size.</i>
Axles.....	Steel.	Nut.	1x6 $\frac{1}{2}$ inches.
Piece part, front.....	B. B. iron.	.....	1 $\frac{1}{4}$ x $\frac{3}{4}$ inch.
Piece part, back.....	.....	.....	1 $\frac{1}{2}$ x $\frac{7}{8}$ inch.
Springs, front, four plates.....	} Oil temper, Swedes steel.	} Elliptic, square ends; button heads.	1 $\frac{3}{8}$ inches.
Length.....			36 inches.
Open.....			7 inches.
Main and second plates.....			No. 3.
Additional plates.....			No. 4.
Back, five plates.....			1 $\frac{1}{2}$ steel.
Length.....			37 inches.
Open.....			9 $\frac{1}{2}$ inches.
Main plates.....			No. 2.
Second and third plates.....			No. 3.
Additional plates.....			No. 4.
Fifth wheel.....	.....	Half circle.	15 inches.
Circles.....	Norway iron.	Half round.	1x $\frac{1}{2}$ inch.
Bolts.....	Norway iron.	.....	$\frac{1}{4}$ inch.
Shaft irons.....	Ulster iron.	Flat half oval.	1 $\frac{1}{4}$ x5-16 inch.
Jacks.....	.....	Plain.	1 $\frac{1}{8}$ inches.
Bolts.....	Norway iron.	.....	$\frac{1}{4}$ inch.
Perch plate, front end.....	Norway iron.	.....	1 $\frac{1}{4}$ x5-16 inch.
Back end.....	Norway iron.	.....	.....
Bolts.....	Norway iron.	.....	5-16 inch.
Center.....	Ulster iron.	Flat.	1 $\frac{1}{4}$ x $\frac{1}{4}$ inch.
Top plate.....	Norway iron.	Half oval.	1x3-16 inch.
Side stays.....	B. B. iron.	.....	.....
Outside and inner back branch.....	.....	Oval.	58x38 inch.
Inner front branch.....	.....	Oval.	58x5-16 inch.
Heels.....	Norway iron.	.....	.....
Body loops.....	Ulster iron.	.....	.....
Front.....	.....	Square.	78 inch.
At butt.....	.....	Oval.	78x58 inch.
At bar.....	.....	Oval.	34x7-16 inch.
Head.....	.....	.....	78 inch.
Back.....	.....	Square.	1 inch.
At butt.....	.....	Oval.	1 $\frac{1}{8}$ x $\frac{7}{8}$ inch.
At bar.....	.....	Oval.	1x9-16 inch.
Head.....	.....	.....	78 inch.
Bolts.....	Norway iron.	.....	5-16 inch.
Clip king bolt.....	Norway iron.	.....	$\frac{3}{4}$ inch.
Spring portion.....	.....	.....	7-16 inch.
Clips.....	Norway iron.	Flat.	78 inch.
Ends.....	.....	.....	38 inch.
Tire.....	Steel.	.....	1x3-16 inch.
Tire.....	Compound iron.	.....	1 $\frac{1}{8}$ x3-16 inch.
Tire.....	Iron.	.....	1 $\frac{1}{8}$ x $\frac{1}{4}$ inch.
Bolts.....	.....	Tire.	3-16 inch.
Step.....	Norway iron.	Gridiron.	4 $\frac{1}{2}$ x5 $\frac{1}{2}$ inches.
Branches.....	B. B. iron.	Oval.	34x $\frac{1}{2}$ inch.
Bolts.....	Norway iron.	.....	5-16 inch.
Dash.....	.....	.....	15 in. high.
End and bottom bars.....	Ulster iron.	Oval.	4x38 inch.
Center, top and end bars.....	Ulster iron.	Oval.	58x38 inch.
Feet.....	Norway iron.	.....	.....
Foot rod.....	Ulster iron.	Oval.	34x $\frac{1}{2}$ inch.
Lining to top of basket.....	Band iron.	.....	34 in. No. 14.
Joints, back.....	Norway iron.	Stump joint.	34x58 inch.
Piece part.....	B. B. iron.	Oval.	58x7-16 inch.
Front.....	Norway iron.	Stump joint.	58x58 inch.
Piece part.....	B. B. iron.	Oval.	58x38 inch.
Rocker plates.....	L. W. iron.	.....	1 $\frac{1}{2}$ x5-16 inch.
Screws.....	.....	.....	No. 14.
Spring bar bolts.....	Norway iron.	.....	38 inch.

—If you want bill head cuts, either for carriage or harness trades, send to us for samples of our own designs. Electrotypes, \$1 50 to \$1 75 each.

1878

JULY.

Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.
.....	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	.....	.....	.....
.....

Legal Holiday.—Independence Day, 4th.

Jewish Calendar.—5638. 18, Fast of Tamuz. 31, Rosh Hodesh Ab.

INTEREST TABLE.

At six per cent. in dollars and cents from one dollar to five hundred :

Amount. Dollars.	1 Day. \$ c	7 Days. \$ c	15 Days. \$ c	1 Mo. \$ c	3 Mos. \$ c	6 Mos. \$ c	12 Mos. \$ c
1 - - -	.00	.00	.00 ¹ / ₄	.00 ¹ / ₂	.01 ¹ / ₂	.03	.06
2 - - -	.00	.00 ¹ / ₄	.00 ¹ / ₂	.01	.03	.06	.12
3 - - -	.00	.00 ¹ / ₄	.00 ³ / ₄	.01 ¹ / ₂	.04 ¹ / ₂	.09	.18
4 - - -	.00	.00 ¹ / ₂	.01	.02	.06	.12	.24
5 - - -	.00	.00 ¹ / ₂	.01 ¹ / ₄	.02 ¹ / ₂	.07 ¹ / ₂	.15	.30
6 - - -	.00	.00 ³ / ₄	.01 ¹ / ₂	.03	.09	.18	.36
7 - - -	.00	.00 ³ / ₄	.01 ³ / ₄	.03 ¹ / ₂	.10 ¹ / ₂	.21	.42
8 - - -	.00	.01	.02	.04	.12	.24	.48
9 - - -	.00	.01	.02 ¹ / ₄	.04 ¹ / ₂	.13 ¹ / ₂	.27	.54
10 - - -	.00	.01 ¹ / ₄	.02 ¹ / ₂	.05	.15	.30	.60
20 - - -	.00 ¹ / ₄	.02 ¹ / ₂	.05	.10	.30	.60	1.20
30 - - -	.00 ¹ / ₂	.03 ¹ / ₂	.07 ¹ / ₂	.15	.45	.90	1.80
40 - - -	.00 ³ / ₄	.04 ¹ / ₂	.10	.20	.60	1.20	2.40
50 - - -	.01	.06	.12 ¹ / ₂	.25	.75	1.50	3.00
100 - - -	.01 ¹ / ₂	.11 ³ / ₄	.25	.50	1.50	3.00	6.00
200 - - -	.03	.23 ¹ / ₂	.50	1.00	3.00	6.00	12.00
300 - - -	.05	.35	.75	1.50	4.50	9.00	18.00
400 - - -	.07	.46 ¹ / ₂	1.00	2.00	6.00	12.00	24.00
500 - - -	.08	.58 ¹ / ₂	1.25	2.50	7.50	15.00	30.00

CUTTINGS FOR HARNESS.—Coach.

BRIDLE.

	Width, inches.	Length, inches.
Crown pieces.....	1 ³ / ₄	23
Layer.....	1 ¹ / ₈ and ³ / ₄	9 ¹ / ₂
Cheeks.....	⁵ / ₈	30
Winker strap.....	1 ¹ / ₂ and ³ / ₄	13
Winker strap, split.....	¹ / ₂	8
Face piece.....	³ / ₄	13
Drop.....	2	4
Front, made up.....	1 ¹ / ₈	12 ¹ / ₂
Throat latch.....	³ / ₄	27
Nose piece.....	1 ¹ / ₄ and ³ / ₄	15
Winkers.....	5 ³ / ₄	6 ¹ / ₂
Check for swivel, round.....	⁷ / ₈	32
Check, plain.....	⁷ / ₈	25
Center piece.....	³ / ₄	62

PAD, ETC.

Pad top.....	1 ⁷ / ₈ and 3 ¹ / ₈	16 ¹ / ₂
Sides.....	2	27
Points.....	1	10
Market strap.....	1 and 1 ¹ / ₂	20
Market tug.....	1	20
Market tug loop.....		4 ¹ / ₂
Hame tug, made up.....	1 ³ / ₈	17
Loop.....		8
Trace.....	1 ¹ / ₂	80
Belly band.....	1 ³ / ₄	17 ¹ / ₂
Layer.....	1	24
Housing.....	3 ¹ / ₂	6
Housing border.....	⁵ / ₈	
Martingale.....	1 ³ / ₄	33
Martingale layer.....	⁷ / ₈	28
Spread strap.....	⁵ / ₈	18

BREECHING.

Body.....	2 ¹ / ₄	48
Layer.....	1 ¹ / ₄	53
Hip straps.....	1 ¹ / ₄ and 2	28
Split.....	⁵ / ₈	20
Breeching tugs.....	⁵ / ₈	11
Tug loops.....	3 ¹ / ₂	
Kidney straps.....	1 ¹ / ₈	18
Ornaments.....	2 ¹ / ₄	3 ⁷ / ₈
Turnback.....	⁷ / ₈	34
Body.....	2 ¹ / ₈	19
Layer.....	⁷ / ₈	12
Crupper billets.....	³ / ₄	9
Dock.....	3	17
Short reins.....	1	55
Long reins.....	1	72
Hand parts.....	1 ¹ / ₄	108

MOUNTINGS.

4 1 ³ / ₄ Band Terrets.	26 ⁵ / ₈ -inch Bridle Buckles.
2 No. 5 Band Fly Hooks, or No. 6 Pad Hooks.	4 ¹ / ₂ -inch Bridle Buckles.
8 Pad Screws.	4 ⁵ / ₈ -inch Harness Buckles.
2 1-inch Crupper Loops.	2 ³ / ₄ -inch Harness Buckles.
4 Pad End Swivels.	16 ⁷ / ₈ -inch Harness Buckles.
1 Set ³ / ₄ Hames.	2 ³ / ₄ -inch Roller Harness Buckles.
1 Pair 1 ⁵ / ₈ or 1 ³ / ₄ Hame Rings.	4 1-inch Roller Harness Buckles.
1 Pair Links.	8 1-inch Rein Buckles.
1 Pair No. 4 or 5 Fly Terrets.	4 ⁵ / ₈ -inch Harness Rings.
2 Pair ⁵ / ₈ -inch Gag Swivels.	1 Pair Bits.
1 Set Hooks and Eyes.	2 Pair Rosettes.
4 1 ³ / ₈ or 1 ¹ / ₂ -inch Trace Loops.	1 Pair Fronts.
4 1 ³ / ₈ or 1 ¹ / ₂ -inch Loop Trace Buckles.	If with Breeching, add
	4 ⁷ / ₈ -inch Harness Buckles.
	8 ⁷ / ₈ -inch Harness Rings.

1878

AUGUST.

Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Jewish Calendar.—5638. 8, Tishabeab. 29, 30, Rosh Hodesh Elool.

INTEREST TABLE.

At seven per cent. in dollars and cents from one dollar to five hundred :

Amount. Dollars.	1 Day. \$ c	7 Days. \$ c	15 Days \$ c	1 Mo. \$ c	3 Mos. \$ c	6 Mos. \$ c	12 Mos. \$ c
1 - - -	.00	.00	.00 ¹ ₄	.00 ¹ ₂	.01 ³ ₄	.03 ¹ ₂	.07
2 - - -	.00	.00 ¹ ₄	.00 ¹ ₂	.01 ¹ ₄	.03 ¹ ₂	.07	.14
3 - - -	.00	.00 ¹ ₂	.00 ³ ₄	.01 ³ ₄	.05 ¹ ₄	.10 ¹ ₂	.21
4 - - -	.00	.00 ¹ ₂	.01	.02 ¹ ₃	.07	.14	.28
5 - - -	.00	.00 ³ ₄	.01 ¹ ₂	.03	.08 ³ ₄	.17 ¹ ₂	.35
6 - - -	.00	.00 ³ ₄	.01 ³ ₄	.03 ¹ ₂	.10 ¹ ₂	.21	.42
7 - - -	.00	.01	.02	.04	.12 ¹ ₄	.24 ¹ ₂	.49
8 - - -	.00	.01	.02 ¹ ₄	.04 ² ₃	.14	.28	.56
9 - - -	.00	.01 ¹ ₄	.02 ¹ ₂	.05 ¹ ₄	.15 ³ ₄	.31 ¹ ₂	.63
10 - - -	.00 ¹ ₄	.01 ¹ ₄	.03	.05 ³ ₄	.17 ¹ ₂	.35	.70
20 - - -	.00 ³ ₈	.02 ³ ₄	.06	.11 ² ₃	.35	.70	1.40
30 - - -	.00 ¹ ₂	.04	.09	.17 ¹ ₂	.52 ¹ ₂	1.05	2.10
40 - - -	.00 ³ ₄	.05 ¹ ₂	.12	.23 ¹ ₃	.70	1.40	2.80
50 - - -	.01	.06 ³ ₄	.15	.29 ¹ ₄	.87 ¹ ₂	1.75	3.50
100 - - -	.02	.13 ¹ ₂	.29	.58 ¹ ₃	1.75	3.50	7.00
200 - - -	.04	.27 ¹ ₄	.58	1.16 ² ₃	3.50	7.00	14.00
300 - - -	.06	.40 ³ ₄	.87 ¹ ₂	1.75	5.25	10.50	21.00
400 - - -	.08	.54 ¹ ₂	1.17	2.33 ¹ ₃	7.00	14.00	28.00
500 - - -	.10	.68	1.46	2.91 ² ₃	8.75	17.50	35.00

—Don't fail to read notice on title page.

IRONWORK OF CARRIAGES.

Table of the Kinds and Sizes of Irons Used in Constructing a Four-
Seat Rockaway, 4 feet 10 inch Track.

<i>Sectional Parts.</i>	<i>Metal.</i>	<i>Shape.</i>	<i>Size.</i>
Axles, nut.....	Case hardened.	Plain taper.	1 1-16x7 in.
Piece part, back	B. B. iron.	Bar.	1x1 1/2 inches.
Piece part, front.....	B. B. iron.	Bar.	1x1 3/8 inches.
Springs, five plates	Swedes steel.	Elliptic, round p'ts, and to top plates, and square points to bottom plates, French clips, front 1 3/8, back 1 1/2.	1 3/8 and 1 1/2 in
Front, length			37 inches.
Open			7 inches.
Main plates			No. 2.
Second and third plates ..			No. 3.
Fourth and fifth plates ..			No. 4.
Back, length			39 inches.
Open			9 1/2 inches
Main and second plates....			No. 2.
Additional plates			No. 3.
Fifth wheel	Norway iron.	Cincinnati.	15 inches.
Circles	Norway iron.	Half round.	1 inch.
Bolts	Norway iron.	.....	5-16 inch.
Shaft irons	Ulster iron.	Swaged.	1 1/4x1 3/8 inches
Length front of bar.....	.....	.....	14 inches.
Length on bar.....	.....	.....	10 inches.
Bolts	Norway iron.	Diamond heads.	5-16 inch.
Jacks	Norway iron.	Plain.	.....
Heads, long.....	Norway iron.	Round.	1 1/4 inches.
Bolts	Norway iron.	Turned heads.	7-16 inch.
Clips	Norway iron.	Strap.	1 inch.
Bolt end.....	.....	Round.	5-16 inch.
Perch plate, bottom end	Norway iron.	Flat.	3/8x1 1/4 inches.
Center	Ulster iron.	Flat.	3/8x1 1/4 inches.
Top	Norway iron.	Half oval.	1 1/8x3-16 inch.
Bolts	Norway iron.	Turned heads.	5-16 inch.
Head plates	Norway iron.	Half oval.	1 1/8x3-16 inch.
Side stays, outside and back..	B. B. iron.	Oval.	3/8x5/8 inch.
Front branch	B. B. iron.	Oval.	5-16x5/8 inch.
Ends at head block	Norway iron.	Half oval.	1x1 1/4 inches.
Bolts	Norway iron.	Turned heads.	5-16 inch.
Spring bar bolts.....	Norway iron.	Turned heads.	3/8 inch.
Clip king bolt.....	Norway iron.	Plain.	1 inch.
Bolt part	Norway iron.	Round.	3/4 inch.
Body loops, back.....	B. B. iron.	Swaged.	7/8x1 1/8 inches.
Heads at loops.....	B. B. iron.	Round.	1 inch.
Bolts	Norway iron.	Turned heads.	3/8 inch.
Tire	Common iron.	Flat.	5-16x3/4 inch.
Tire	Compound iron.	Flat.	1/4x1 1/4 inches.
Tire	Steel.	Flat.	3-16x1 1/4 inch.
Bolts	Norway iron.	Tire.	3-16 inch.
Step pad without covers.....	Norway iron.	Square.	6 1/2x8 inches.
Main branch	Ulster iron.	Octagon and square.	7/8 inch.
At pad .....	.....	Oval.	13-16x3/4 inch
Pad, if cover is used	She't iron, No.10	Horseshoe.	5 1/2x7 inches.
Back straps	Ulster iron.	Oval.	3/8x3/4 inch.
Bolts	Norway iron.	Turned heads.	3/8 inch.
Covers.....	She't iron, No.14	Horseshoe.	6 1/2x8 inches.
Dash, hight .....	.....	.....	15 inches.
Bars	B. B. iron.	Oval.	3/8x3/4 inch.
Foot rod.....	Ulster iron.	Oval.	3/4x3/8 inch.
Hub bands, wrought.....	Norway iron.	Plain.	1/8 inch thick.
Side rail to front seat	Ulster iron.	Round.	7-16 inch.
Railroad back uprights	Ulster iron.	Oval.	1 1/2x7/8 inch.
Bottom	Ulster iron.	Half oval.	1 1/8 inch.
Bolt	Norway iron.	Flat head.	7-16 inch.
Hight.....	.....	.....	15 inches.
Arch plates.....	Ulster iron.	Half oval.	1/4x3/4 inch.

—We are now furnishing fine office pictures. Horse in single harness, and Russo-Canadian sleigh and horse, sent, post paid, to any address. Price 50 cents.

See title page for our address.

1878

SEPTEMBER.

Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Jewish Calendar.—5639. 28, New Year. 30, Fast of Gedaliah.

POSTAL LAWS IN BRIEF.

Domestic mail matter is divided into three classes. The first-class includes sealed packages of all kinds, except book manuscript and corrected proofs between authors and publishers, local or drop letters and postal cards, the rate of postage on which is *three cents for every half ounce or fraction thereof*.

Local or drop letters at offices where free delivery by carriers is established, *two cents for every half ounce or fraction thereof*. Where there is no free delivery one cent for every half ounce or fraction thereof.

Second class includes newspapers or periodicals sent direct from office of publication, which is prepaid at the rate of two cents a pound; circulars, one cent each; newspapers and periodicals, as drop matter to be delivered by carriers, under one ounce each, one cent; over two ounces each, two cents, prepaid by stamps.

Third class includes merchandise, price lists, printed matter, specimens, engravings, etc. Printed matter other than engravings are subject to postage at the rate of one cent for every two ounces or fractional part thereof. Merchandise, engravings, unsealed circulars, etc., one cent for each ounce or fraction thereof.

All third class matter must be so wrapped that it may be examined by the postmaster without breaking a seal or destroying the wrappers; if sealed the article is liable to the same rate of postage as first-class matter.

Circulars in the way of loose sheets placed in price lists subjects the latter to the same rates of postage as that charged for unsealed circulars.

Any writing on third-class matter other than the directions and the

HARNESS CUTTINGS.

Light Express Harness.

BRIDLE.		
	Width, inches.	Length inches.
Crown piece.....	1 ¹ / ₄	22
Cheeks.....	5 ₈	27
Throat latch.....	5 ₈	28
Winker strap.....	1 ¹ / ₈	12 ¹ / ₂
Billet end.....	5 ₈	
Split.....	3 ₈	7 ¹ / ₂
Front, made up.....	1	12
Nose piece, made up.....	7 ₈ x5 ₈	13
Checks.....	3 ₄	24
Billets.....	3 ₄	10
Center piece.....	5 ₈	55
Winkers.....	4 ³ / ₄	5
HAMES, ETC.		
Hames.....	3 ₄	
Tugs.....	1 ³ / ₈	11
Traces.....	1 ³ / ₈	72
Loop.....		4 ¹ / ₂
Hame strap, long.....	7 ₈	24
Hame strap, short.....	7 ₈	18
Martingale fold.....	4 ¹ / ₂	32
Martingale layer.....	1 ¹ / ₂	29
Billet.....	1 ¹ / ₈	13
SADDLES,		
Tree.....		5
Back strap.....	1 ¹ / ₄	21
Billets.....	1	12
Shaft tugs.....	1 ¹ / ₄	19
Billets.....	1	14
Belly band, long fold.....	4	26
Chapes.....	1	9
Belly band, short fold.....	4	16
Chapes.....	1	9
Turnback.....	1 ¹ / ₂ x3 ₄	47
Turnback body.....	2	20
Hip straps.....	7 ₈	46
Breeching body fold.....	4 ¹ / ₂	40
Breeching layer.....	1 ¹ / ₈	47
Breeching straps.....	1 ¹ / ₈	48
Breeching tugs.....	7 ₈	10
Dock.....	3	16
Reins.....	7 ₈	82
Hind parts.....	1 ¹ / ₄	84

MOUNTINGS.

1 4 ¹ / ₂ or 5-inch Saddle Tree.	2 5 ₈ -inch Harness Buckles.
1 pair 1 ³ / ₄ -inch Band Terrets.	6 7 ₈ -inch Harness Buckles.
1 No. 7 or 8-inch Band Bolt, Hook.	2 1-inch Harness Buckles.
4 Saddle Nails.	2 3 ₄ -inch Roller Harness Buckles.
1 No. 4-inch Fly Terret.	4 1-inch Roller Harness Buckles.
1 pair 5 ₈ -inch Gag Swivels.	2 5 ₈ -inch Harness Rings.
1 pair 3 ₄ -inch Hames.	2 3 ₄ -inch Harness Rings.
1 pair 1 ⁵ / ₈ -inch Martingale Rings.	2 7 ₈ -inch Harness Rings.
1 pair 1 ⁵ / ₈ -inch Breeching Rings.	1 pair Rosettes.
1 pair 1 ³ / ₈ -inch Trace Buckles.	1 Bit.
11 5 ₈ -inch Bridle Buckles.	1 Front.

Stitch the traces 8 stitches to the inch, using 4 strands No. 3 thread; all other parts 12 stitches to the inch, 4 strands, No. 12 thread. Harness leather cut stock, 25 pounds.

CHINESE TARIFF.

Leather, per 100 catties, 4 mace, 2 candarine. Articles not specified pay an *ad valorem* duty of 5 per cent., calculated on their market value.



Jewish Calendar.—5639. 7, Kipoor. 12, 13, Sucot, 2 first days.

POSTAL LAWS—(Continued).

dress of the sender and name of the contents, subjects the whole to letter postage.

REGISTRATION OF DOMESTIC LETTERS.

The fee for registering a domestic letter—that is, a letter mailed at any Post-Office in the United States or Territories, and addressed to any other office in the United States or Territories—is fixed at ten cents, in addition to the regular letter rate of postage.

The name and Post-Office address of the sender of a registered letter must be indorsed on the face of the envelope, which must bear stamps of sufficient value to prepay both postage and registry fees.

Postmasters cannot in any case give a receipt showing the contents of a registered letter.

The registry fee must be paid on each letter presented. Two or more letters, though addressed to the same person, cannot be tied or otherwise fastened together, and registered as one letter.

POSTAL MONEY ORDERS.

After once paying a money order, by whomsoever presented, the Post-Office Department will not be liable to any further claim therefor.

Be careful, on taking out a money order, to state correctly the given name, as well as the surname, of the person in whose favor it is to be drawn.

Neglect of these instructions will risk the loss of money, besides leading to delay and trouble in obtaining payment.

IRONWORK OF CARRIAGES.

**Table of Kinds and Sizes of Iron Used in Constructing a Light Coupe
Front Track, 3 feet 6 inches; Back Track, 4 feet 2 inches.**

<i>Sectional Parts.</i>	<i>Metal.</i>	<i>Shape.</i>	<i>Size.</i>
Axles.....	Case hardened.	Nut or mail.	1 3-16x7 in.
Piece part.....	B. B. iron.	Bar.	1 3/8 inches.
Springs.....	Best quality Swedes steel, oil temper.	Top plates thin, square ends; button ends bev- eled and square; but- ton heads. If the back spring is placed on the back axle it is but 7 inches open.	1 1/2 inches.
Front.....			4 plates.
Length.....			36 inches.
Open.....			9 inches.
Main plate.....			No. 2.
Second plates.....			No. 3.
Third and fourth plates..			No. 4.
Back.....			4 plates.
Length.....			38 inches.
Open.....			9 1/2 inches.
Main and second plates...			No. 2.
Third plate.....			No. 3.
Fourth plate.....			No. 4.
Fifth wheel.....	Ulster iron.	Half circle.	20 inches.
Plates.....			1 1/8x3/8 inch.
Bottom bed, bottom plate....	Ulster iron.	Full half oval.	1 3/8x1/2 inch.
Bottom bed, top plate.....	Ulster iron.	Half oval.	1x3/8 inch.
Bottom plate of futchels....	Ulster iron.	Square.	3/4 inch.
Either side of concave.....		Half oval.	7/8x9-16 inch.
Back end.....	Norway iron.	Half oval.	3/4x1/2 inch.
Front end.....	Norway iron.	Half oval.	1 1/4x5-16 inch.
Side stay at spring bearing..	Ulster iron.		1 1/2x5/8 inch.
Length.....			5 1/2 inches.
Front end.....		Oval.	7/8x5/8 inch.
Back end.....		Oval.	3/4x1/2 inch.
Shaft jaw.....	Norway iron.	Half oval.	1 1/2x1/2 inch.
Inside plate to futchel.....	Norway iron.		1 1/8x3/8 inch.
Ends at outside stay.....	Norway iron.	Half oval.	1 1/4x3/8 inch.
Bolts.....	Norway iron.		3-16 inch.
Socket plate.....	Norway iron.	Full half oval.	1 1/4x3/8 inch.
Top plate of top bed.....	Norway iron.	Full half round.	1 1/8x3/8 inch.
Ends.....			7/8x7-16 inch.
Top futchel plates.....	Norway iron.	Half oval.	7/8x5-16 inch.
King bolt.....	Norway iron.	Plain patern.	5/8 inch.
Bottom socket for king bolt..	Norway iron.	Oval.	1x3/4 inch.
Ends.....			1x3/8 inch.
Pole socket, diameter.....	Ulster iron.		1 1/4 inches.
Length.....			1 1/2 inches.
Draw bar pole socket.....			2 3/8x2 1/8 inches
Bottom plate.....	Norway iron.		1 3/8x7/8 inch.
Trace knobs.....	Ulster iron.	Round.	2 1/8 inches.
Bolt part.....			3/8 inch.
Bottom plate to shaft.....		Half oval.	1x3/8 inch.
Crook portion.....			3/4x3/8 inch.
Draft bolts.....	Norway iron.		7-16 inch.
Tire.....	Steel.		1 1/4x5-16 inch.
Tire.....	Iron.		1 1/4x7-16 inch.
Bolts.....	Norway iron.	Tire.	1/4 inch.
Back band to hubs.....			1/8 inch thick.
Front band to hub.....			3-16 in. thick
Rocker plate at arch.....	L. W. iron.		3x1/2 inch.
Ends.....			3x3/8 inch.
Dash.....			13 in. high.
Side and bottom bars.....	Burden's iron.	Oval.	3/4x3/8 inch.
Center and top bar.....	Burden's iron.	Oval.	3/4x5/8 inch.
Plates for wood brakes.....	Burden's iron.	Half round.	1 5/8x5/8 inch.
Bolts.....	Norway iron.		5-16 inch.
Step pads.....	She't iron, No. 10	Horseshoe.	5 3/4x7 inches.
Shank.....	Ulster iron.	Octagon and round.	7/8x7/8 inch.
At pad.....		Round.	5/8 inch.
Bolts.....			5-16 inch.
Cover.....	Sheet iron.		No. 14.
Shank.....	Norway iron.	Octagon and round.	9-16x9-16 in.
At cover.....			7-16 inch
Flange to cover.....	Nor'y band iron.		1/8x5/8 inch
Fender.....	Burden's iron.	Oval.	5/8x7/8 inch.
Width.....			5 inches



Coach Makers' Convention.—20th.

Legal Holiday.—Thanksgiving.

Jewish Calendar.—5639. 26, 27, Rosh Hodesh Kislev.

POSTAL LAWS—(Continued).

Under no circumstances can payment of an order be demanded on the day of its issue.

The fees, or charges for money, will be as follows:

On orders not exceeding \$15.....	10 cents
On orders over \$15, and not exceeding \$30.....	15 cents
“ “ 30, “ “ 40.....	20 cents
“ “ 40, “ “ 50.....	25 cents

When a larger sum than \$50 is required, additional orders to make it up must be obtained.

If the purchaser of a money order, from having made an error in stating the name of the office of payment, or for other reasons, desires to have the said money order changed, the issuing Postmaster will repay the first order, and issue another in lieu thereof, for which an additional fee will be charged, and exacted as for a new transaction. Parties procuring money orders should examine them carefully, to see that they are properly filled up and stamped. This caution will appear the more necessary when it is understood that any defect in this respect will throw difficulties in the way of payment.

When for any reason the payee of a money order does not desire or is unable to present the same in person, he is legally empowered, by his written indorsement thereon, to direct payment to be made to any other person; and it is the duty of the Postmaster upon whom the order is

CUTTINGS FOR HARNESS.

Farm Harness.

BRIDLE.		
	Width, Inches.	Length, Inches.
Crown piece.....	1 ¹ / ₄	24
Split.....	⁵ / ₈	6 ¹ / ₂
Cheeks.....	⁵ / ₈	18
Bit straps.....	⁵ / ₈	11
Throat latch, long.....	⁵ / ₈	18
Throat latch, short.....	⁵ / ₈	12
Winker brace.....	1 ¹ / ₄	12
Split, rounded.....	³ / ₄	8
Front, made up.....	1 ¹ / ₈	12
Philadelphia face.....	1	23
Split.....	¹ / ₂	11
Rounded.....		8
Reins.....	³ / ₄	24
Center part.....	³ / ₄	58
Billets.....	³ / ₄	10
Winkers.....	4 ¹ / ₄	4 ¹ / ₈
PAD		
Pad top.....	1 ⁷ / ₈	17
Pad sides in one piece.....	1 ¹ / ₄	48
Ends.....	⁷ / ₈	8
Tugs.....	1 ¹ / ₂	17 ¹ / ₂
Traces.....	1 ¹ / ₂	72
Belly band fold.....	5	21
Billets.....	⁷ / ₈	14
Hame strap, long.....	⁷ / ₈	23
Hame strap, short.....	⁷ / ₈	20
Turnback.....	1	37
Turnback body.....	1 ¹ / ₄	16
Crupper.....	3	15
Breast straps.....	1 ¹ / ₂	51
Holdbacks.....	1 ¹ / ₂	51
Hip strap.....	1	85

Stitch the traces 6 stitches to the inch; other straps 8 stitches to the inch; use 4 strands No. 0 thread. About 30 pounds of cut stock harness leather will be required.

MEASURING TIMBER.

Sawed lumber that can be produced from a log of given diameter from 10 to 30 inches, one foot in length.

Diameter. Inches.	Square Inches.	No. Feet.	Diameter. Inches.	Square Inches.	No. Feet.
10.....	7.....	4	21.....	15.....	18 ¹ / ₃
11.....	7 ⁷ / ₈	5	22.....	15 ¹ / ₂	20
12.....	8 ¹ / ₂	6	23.....	16 ¹ / ₄	22
13.....	9 ¹ / ₂	7	24.....	17.....	24
14.....	10.....	8	25.....	17 ¹ / ₂	26
15.....	10 ⁵ / ₈	9	26.....	18 ¹ / ₄	28
16.....	11 ¹ / ₂	10 ² / ₃	27.....	19.....	30
17.....	12.....	12	28.....	19 ¹ / ₂	32 ¹ / ₂
18.....	12 ⁷ / ₈	13 ¹ / ₂	29.....	20 ¹ / ₂	35
19.....	13 ¹ / ₂	15	30.....	21 ¹ / ₄	37 ¹ / ₂
20.....	14 ¹ / ₂	16 ² / ₃			

The first column gives the diameter of the log, the second column the size in inches it will square, the third column the number of feet, board measure, it will produce.

EXPORTS AND IMPORTS FOR 1877.

CARRIAGES, &C.		HARNESS, &C.	
Carriages.....	\$178,698	Harness.....	\$9,075
Carriage materials.....	131,131	Saddlery.....	19,551
Wagons.....	24,517	Whips.....	2,528
Wheels.....	29,767	Saddles.....	226
Spokes.....	32,749	Collars.....	4,448
Varnish.....	18,518	Trunks.....	56,611
Total.....	\$415,380	Total.....	\$92,439
Imports—Carriages.....	\$26,186	Imports—Saddlery.....	\$48,720

1878

DECEMBER.

Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Church Holiday.—Advent Sunday, 1st.

Legal Holiday.—Christmas Day, 25th.

Jewish Calendar.—5639. 21, Hanukah. 26, 27, Rosh Hodesh Tebet.

POSTAL LAWS—(Continued).

drawn, to pay the amount thereof to the person thus designated, provided the Postmaster is satisfied that such indorsement is genuine, and that the second party shall, if required, *prove his identity*, and shall give correct information as to the name and address of the person who originally obtained the order. *More than one indorsement is prohibited by law, and will render an order invalid and not payable.* The signature to the receipt on the face of the order should be that of the person who presents and receives payment of the same.

The names of both remitter and payee must be entered in the advice in full when possible; and married women must be described by their own names, and not by those of their husbands.

A money order should always be made payable to one person or to one firm only. Every person who presents a money order for payment, *is required to prove his identity to the postmaster, unless the latter is satisfied, without obtaining such proof that the applicant is the rightful owner.*

FOREIGN MONEY ORDERS.

Postal conventions for the exchange of money orders have been concluded with the following foreign countries, viz.: Switzerland, Great Britain and Ireland, and Germany.

The Postmaster at any foreign money order office in the United States, the same being designated by the Postmaster-General, will furnish a blank form of application, on which the sender must enter all the particulars of the amount (in United States money), names, addresses, etc., and

must state the *full name* and *exact residence* of the person to whom the order is to be made payable.

The Postmaster will then issue an international order on the Postmaster at New York, giving all the particulars furnished in the application, and transmit the same together with the coupon.

The certificate attached to each order will, by the issuing Postmaster, be given to the sender, the same serving as his receipt, but no "advice" will be issued, as in domestic money orders, inasmuch as the order itself, instead of being delivered to the applicant for transmission, is forwarded directly to New York.

Abreviations.	Letters.		News-papers.		Other printed matter.		Samples of mdse.	
	Condition of payment.	Limit of payment.	Postage for 15 grammes or 1/2 ounce.	Limit of weight for single paper.	Postage on each paper.	Weight fixed for single rate of postage.	Postage charge for each weight or fraction thereof.	Postage charge for each weight or fraction thereof.
			cts.	oz.	cts.	oz.	cts.	oz.
	c	p d	27	4	4	2	4	2
	c	p d	5	n l	2	2	—	—
	c	p d	5	n l	2	2	—	—
	c	d	15	4	4	2	5	5
	o	d	5	4	2	2	2	2
	c	p d	3	n l	2	2	—	—
	o	d	21	4	4	2	4	4
	c	p d	13	4	4	4	10	4
	c	p d	3	1	1	1	8	10
	c	p d	17	4	4	4	10	4
	o	d	27	4	4	2	5	5
	c	p d	5	n l	2	2	—	—
	c	p d	13	4	4	4	10	4
	c	p d	5	n l	2	2	—	—
	o	d	5	4	2	2	2	2
	c	p d	17	4	4	4	10	4
	o	d	5	4	2	2	2	2
	o	d	5	4	2	2	2	2
	o	d	5	4	2	2	2	2
	o	d	5	4	2	2	2	2
	o	d	5	4	2	2	2	2
	c	d	10	n l	2	4	10	—
	o	d	10	4	4	2	4	2
	o	d	5	4	2	2	2	2
	c	d	5	4	2	2	2	2
	o	d	27	4	4	2	5	5
	o	d	15	4	4	2	4	2
	c	p d	10	—	—	1	2	—
	c	fro.	3	1	1	1	—	—
	c	d	6	n l	2	2	2	2
	c	p d	5	n l	2	2	—	—
	c	d	12	n l	2	4	4	4
	c	d	15	4	4	2	5	5
	c	p d	12	n l	2	4	—	—
	c	p d	15	4	4	2	5	5
	c	p d	13	4	4	4	10	4
	o	d	5	4	2	2	2	2
	o	d	5	4	2	2	2	2
	o	d	5	4	2	2	2	2
	c	p d	13	4	4	4	10	4
	c	p d	13	4	4	4	10	4
	c	p d	10	—	—	1	2	—
	c	p d	5	n l	2	2	—	—
	c	p d	13	4	4	4	10	4
	c	p d	5	n l	2	2	—	—
	c		10	4	4	2	4	4

NOTE—To all countries of the Postal Union the maximum weight for patterns of merchandise is 250 grammes, or 8³/₄ ounces, and the maximum weight of other articles, except letters, is 1,000 grammes, or 2 lbs 3 oz.

THE FLEXIBLE RUBBER BIT.

FIRST PREMIUM
CENTENNIAL EXHIBITION,
1876.



FIRST PREMIUM
AMERICAN INSTITUTE
NEW YORK, 1875.

This Bit is now in general use, and is pronounced by the best horse-
men to be **THE MOST PERFECT DRIVING BIT** yet introduced. Greatly strengthened
and improved; each Bit is now tested by 600 pounds direct strain.

Prices Range from \$8 40 to \$25 25 Per Dozen.

ALL WROUGHT BITS.

These Bits are all forged cheeks
and mouth pieces. Prices reduced
more than 60 per cent., being low
enough to no longer justify the
risk of using a bit with cast
malleable iron about it. Addi-



tional strength is also secured by
enlarging the cheek instead of
cutting it away where it works in
the head. This patented improve-
ment is applied to all our Bits.

A GUARANTEE ACCOMPANIES EVERY BIT.

Prices, Nickel, "C. & Co.," Popular Brand, \$10 35 Per Dozen.

" " "Crane & Co.," Best Brand, \$18 06 Per Dozen.

Lakin's Patent Overdraw Bar Check Rein.

Awarded First Premium at American Institute, New England Fair, and Wherever Exhibited.

It keeps the horse's head just where desired. The Rocking Bar gives freedom to the
head, and prevents sore mouth. It does not cut the mane like the ordinary Kemble
Jackson Check.

Prices for Reins Complete, \$18 to \$21 Per Dozen.

" " Check Bars Alone, \$8 to \$11 Per Dozen.

COOK'S PATENT REIN BUTTON.

The lightest, simplest and neatest REIN HOLDER ever made. They can be placed at
intervals on the rein—an advantage possessed by no other Holder.

Price, \$12 Per Gross.

For Sale by all Dealers.

CRANE & CO.,

NEWARK, N. J.

Distances by Railroad—Shortest Through Routes Between the Principal Cities in the United States. Also River and Ocean Routes.

COMPILED EXPRESSLY FOR THE HARNESS AND CARRIAGE JOURNAL ALMANAC.

Distances by Railroad—Shortest Through Routes Between the Principal Cities in the United States. Also River and Ocean Routes.										S. Francisco Denver.
COMPILED EXPRESSLY FOR THE HARNESS AND CARRIAGE JOURNAL ALMANAC.										1506
OCEAN ROUTES.			RIVER ROUTES.			Omaha.				
						St. Paul.	Chicago.			622
New York to London.....	3280	Pittsburgh to Cincinnati.....	500	Columbia to Charleston.....	130	369	413	493	1115	1916
“ “ Liverpool	3040	Cincinnati to Louisville	150	Mobile to Montgomery	180	991	632	479	971	2285
“ “ Havre.....	3200	Louisville to Cairo.....	400	Richmond to Wil'gton, N.C..	284		707	787	1311	2409
“ “ Bermuda.....	600	Cairo to St. Louis	180							2395
“ “ St. Thomas	1430	“ “ Memphis	240							2703
“ “ Panama.....	1989	“ “ New Orleans.....	1040							2703
Boston to Liverpool.....	2596	Memphis to Vicksburg	400							2810
San Francisco to Honolulu...	2080	“ “ New Orleans..	800							2679
“ “ Jeddó	4600									2915
“ “ Canton.....	6000									3048
“ “ Yokohama.....	4520									3367
“ “ Shanghai ..	6740									3431
“ “ Panama.....	1989									3546
EXAMPLE.			Wilm'ton, Del.							
N. Y. to St. Louis.....	1097	Washington.	110	40	138	219	576	461	228	462
N. Y. to S. Francisco.....	3367	Richmond.	130	240	170	268	343	787	672	358
		Columbia.	437	567	677	705	786	1143	1028	795
		Atlanta.	256	548	678	788	816	897	1254	1139
		Mobile.	355	611	903	1033	1143	1073	1171	1252
*N. Orleans.	140		495	751	1043	1173	1283	1213	1311	1392
Galveston.	320		460	815	1071	1363	1493	1603	1533	1631
						</				

Rail and Steamers.



Received the **ONLY AWARD** for

QUALITY

At the Centennial Exhibition.

**THEIR SUPERIOR EXCEL-
LENCIES ARE NOW
UNIVERSALLY
ADMITTED.**

VALENTINE & COMPANY,

323 PEARL STREET,
NEW YORK.

OFFICIAL STANDARD OF VALUE OF FOREIGN COINS.

<i>Country.</i>	<i>Monetary Unit.</i>	<i>Standard.</i>	<i>Value in U. S. Gold.</i>
Argentine Republic - - - -	Pesofuerte.	Gold.	\$1.00.00
Austria - - - - -	Florin.	Silver.	.45.30
Belgium - - - - -	Franc.	G. & S.	.19.30
British Possessions, N. A. - -	Dollar.	Gold.	1.00.00
Bogota - - - - -	Peso.	Gold.	.96.50
Bolivia - - - - -	Dollar.	Silver.	.96.50
Brazil - - - - -	Milr. of 1,000 reis.	Gold.	.54.50
Central America - - - - -	Dollar.	Silver.	.91.80
Chili - - - - -	Peso.	Gold.	.91.20
China - - - - -	Tael.	Silver.	1.61.00
Cuba - - - - -	Peso.	Gold.	.92.58
Denmark - - - - -	Crown.	Gold.	.26.80
Ecuador - - - - -	Dollar.	Silver.	.91.80
Egypt - - - - -	P'd of 100 piastres.	Gold.	4.97.40
France - - - - -	Franc.	G. & S.	.19.30
Great Britain - - - - -	Pound Sterling.	Gold.	4.86.50
Greece - - - - -	Drachma.	G. & S.	.19.30
German Empire - - - - -	Mark.	Gold.	.23.80
Hayti - - - - -	Dollar.	Silver.	1.00.00
India - - - - -	Rupee of 16 annas.	Gold.	4.86.50
Italy - - - - -	Lira.	G. & S.	.19.30
Jamaica - - - - -	Pound Sterling.	Gold.	.99.70
Japan - - - - -	Yen.	Silver.	.43.60
Liberia - - - - -	Dollar.	Gold.	1.00.00
Mexico - - - - -	Dollar.	Silver.	.99.80
Netherlands - - - - -	Florin.	G. & S.	.38.50
Norway - - - - -	Crown.	Gold.	.26.80
Paraguay - - - - -	Peso.	Gold.	1.00.00
Peru - - - - -	Dollar.	Silver.	.91.80
Porto Rico - - - - -	Peso.	Gold.	.92.58
Portugal - - - - -	Milr. of 1,000 reis.	Gold.	1.08.00
Russia - - - - -	Rou. of 1,000 cop.	Silver.	.73.40
Sundwich Islands - - - - -	Dollar.	Gold.	1.00.00
Spain - - - - -	Peseta of 1,000 c.	G. & S.	.19.30
Sweden - - - - -	Crown.	Gold.	.26.80
Switzerland - - - - -	Franc.	G. & S.	.19.30
Tripoli - - - - -	Mahbub of 20 pias.	Silver.	.82.90
Tunis - - - - -	Pias. of 16 caroubis.	Silver.	.11.80
Turkey - - - - -	Piaster.	Gold.	.04.30
United States of Colombia -	Peso.	Silver.	.91.80
Uruguay - - - - -	Putacon.	Gold.	.94.98
Venezuela - - - - -	Peso.	Silver.	.77.73

COUNTERFEITS.

GREENBACKS.

Ones. Can be readily detected by the inferior style of the engraving, particularly the head of Chase.

Ones. Close imitation, but the engraving is coarse.

Twos. A new and dangerous \$2 Greenback is in circulation, well executed and calculated to deceive.

Fives. March 10, 1863. In general appearance, paper and printing, are well calculated to deceive.

Fives. The letters in the words FIVE DOLLARS across a large 5 are very uneven. The back of the note is well done, and it is very likely to deceive.

Tens. The genuine has three and one-third dots on the left of the

figure 10, while the counterfeit has but three.

Tens. March 10, 1862, letter C. The appearance of the bill altogether is bad.

Tens. Second plate. Is so well executed and so close an imitation of the genuine, that professional experts can hardly detect the difference. The letter *p* in "*Pay to the Bearer*" has an upstroke; in genuine it has not.

Tens. Third plate. This note is not so well engraved as the second. There is no period after "*Treasury*," at the bottom of the note, and after the date; in genuine there is.

Twenties. Imitation. The paper

HAYDEN & SMITH,

AUBURN, N. Y.,

EXCLUSIVE MANUFACTURERS OF

Kinne Patent Trace Buckles.

PATENT IRON-CLAD HAMES.

“Guaranteed” Ring Bradoon Bits.

All Forged from Norway Iron.

The above are made in all Styles of C Plate, Nickel, Silver and Brass.

Saddlers should use these Reliable Lines of Goods, instead of inferior qualities, and imitations of them.

CONCORD HAMES

IN ALL STYLES.

CARRIAGE MAKERS, ATTENTION!

Use our COMPLETE SETS of Forged Irons.

And Always Have the Best Forging.

OUR GOODS FOR SALE BY DEALERS.

COUNTERFEITS—(Continued).

is good, and the printing very well done.

Twenties. Second plate. Likely to deceive good judges.

Fifties. Raised from twos by pasting.

Fifties. Series of 1869. Can readily be detected by the poor quality of the engravings.

Fifties. (Second issue.) These are the best executed notes that have yet been issued. The four buttons

on Hamilton's waistcoat are very distinct on the genuine; on the counterfeit they are quite indistinct.

One Hundreds. Note the position of the figure 1—in the counterfeit, left hand, 001; right hand, 100.

The \$500 series of 1869 is the best imitation, in the opinion of the Treasury officials, ever made.

One Thousands. Imitation. Issue of 1862, letter B. So well executed that experts can only detect it.

NATIONAL BANK NOTES.

The following list embraces all counterfeits of National Bank notes which have ever been presented at the Redemption Agency :

TWOS.

Kinderhook, N. Y., National Union.	New York, N. Y., Marine.
*Linderpark, N. Y., National Union.	†New York, N. Y., Market.
Newport, R. I., N. Bank of R. Island.	New York, N. Y., St. Nicholas.
†New York, N. Y., Ninth.	†Peekskill, N. Y., Westchester Co.

FIVES.

†Aurora, Ill., First.	Jewett City, Conn., Jewett City.
†Canton, Ill., First.	†New Bedford, M ss., Merchants'.
†Chicago, Ill., First.	†Northampton, Mass., First.
Chicago, Ill., Merchants'.	†Paxton, Ill., First.
†Chicago, Ill., Traders'.	†Peru, Ill., First.
*Galena, Ill., First.	Tamaqua, Pa., First National.
Hanover, Pa., First National Bank.	†Westfield, Mass., Hampden.
Jackson, Mich., People's.	

TENS.

Albany, N. Y., Albany City.	New York, N. Y., Union.
Auburn, N. Y., Auburn City.	†Philadelphia, Pa., First.
Lafayette, Ind., Lafayette.	†Philadelphia, Pa., Third.
†Lockport, N. Y., First.	†Poughkeepsie, N. Y., First.
Muncie, Ind., Muncie National.	†Poughkeepsie, N. Y., City.
Newburgh, N. Y., Highland.	†Poughkeepsie, N. Y., Far. & Manf.
New York, N. Y., American.	Richmond, Ind., Richmond.
New York, N. Y., N. Bk. of Comm'ce.	Rochester, N. Y. Flour City.
New York, N. Y., Marine.	†Rome, N. Y., Central.
New York, N. Y., Mechanics'.	Red Hook, N. Y., First.
New York, N. Y., Merchants'.	†Syracuse, N. Y., Syracuse.
New York, N. Y., N. Bank State N.Y.	Troy, N. Y., Mutual.

TWENTIES.

Chicago, Ill., First.	New York, N. Y., Tradesmen's.
New York, N. Y., Market.	Philadelphia, Pa., Fourth.
New York, N. Y., Merchants'.	Portland, Conn., First.
New York, N. Y., N. Bk. of Comm'ce.	*Utica, N. Y., City.
New York, N. Y., Nat. Shoe & Lea.	Utica, N. Y., Oneida.

ONE HUNDREDS.

Boston, Mass., First.	†New York, N. Y., Central.
†Cincinnati, O., Ohio.	

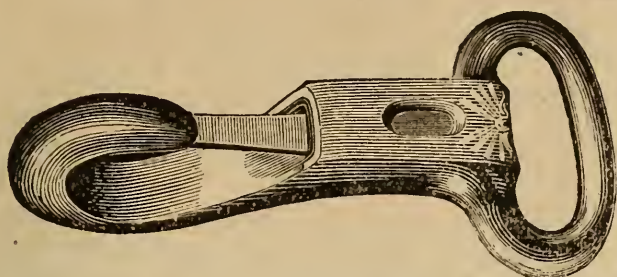
* No such bank in existence.

† Nearly the entire amount of the genuine notes of those banks has been withdrawn from circulation, and no additional issues will be made. The Comptroller is desirous of retiring the whole amount from circulation, and all persons receiving such notes are urgently requested to deposit the same with the nearest National Bank, or to forward them to this office for redemption.

—Subscribe for the *Harness and Carriage Journal*, a monthly trade journal. Its columns are well supplied with practical articles on the carriage and harness trades. Prices current, market reports, business changes, patents, etc. Subscription price, per year, strictly in advance, \$2.

See title page.

**USE THE
PATENT BOX SNAP,**



**The Strongest and
Best Snap Made.**

JAPANNED or TINNED.

For Sale by Dealers Generally.

Manufactured for the Whole-
sale Trade by

Pratt & Letchworth,

**Proprietors of the BUFFALO SADDLERY HARDWARE WORKS and
BUFFALO MALLEABLE IRON WORKS.
BUFFALO, NEW YORK.**

SAFETY.

COMFORT.

ECONOMY.

**THE
RUBBER CUSHIONED**

**Patented in the
UNITED STATES,
CANADA,**

AXLE

**GREAT BRITAIN,
FRANCE
AND BELGIUM.**

**MARKS THE GREATEST STRIDE EVER MADE TOWARD PERFECTING
WHEELED VEHICLES.**

ITS USE SECURES

SAFETY, by preventing hubs and spokes from splitting, springs, axles, and other parts of the gear from breaking, all undue strain being prevented by the instantaneous yielding of the elastic cushions.

COMFORT, by lessening motion, muffling noise, suppressing rattle and "drumming" sound, and preventing sudden and violent contraction and expansion of the springs.

ECONOMY, by largely decreasing vibration, jolting and pounding, and the crystallization of the metal parts, and protecting hubs and spokes from oil and grease, thereby reducing wear and tear to a minimum.

Its use upon heavy trucks, carts, express and milk wagons, omnibuses, etc., has proven its value upon *freight carrying* as well as *pleasure* vehicles, showing not only a great saving in wear and tear upon the vehicle, but also economy in horse-power, by changing "dead" weight to a "live" load.

THE RUBBER CUSHIONED AXLE CO.,

Send for Circular.

Broadway, 7th Ave. and 43d St. (Long Acre), NEW YORK.

**THE "CARLTON TOOLS,"
AXLE GAUGE AND BOLT CLIPPER.**

AXLE GAUGE Awarded Medal of Excellence at late Fair of American Institute.

BOLT CLIPPER Awarded Medal of Superiority at same Fair.

Both Tools are Without Superiors.

Axle Gauge, \$10. Bolt Clipper, \$8 50.

**J. L. H. MOSIER, General Agent,
LONG ISLAND CITY, N. Y., U. S. A.**

RATES OF INTEREST.

Five per cent., Louisiana—By special contract any rate not higher than 8.

Six per cent., Arkansas—By contract in writing, any rate; Connecticut, Delaware, District of Columbia and Illinois—By special contract, 10; Indiana—By special contract, 10; Kentucky, Maine, Maryland, Massachusetts—By special contract in writing, any rate; Mississippi and Missouri—By special contract in writing, 10; New Hampshire and North Carolina and Ohio—By special contract in writing, 8; Pennsylvania, Rhode Island and Tennessee—By special contract, any rate; Vermont and Virginia—By special agreement, 12; West Virginia.

Seven per cent., Georgia and Kansas—By special contract, 10; Michigan—By special contract in writing, 10; Minnesota—By special contract in writing, 12; New Jersey, New York and South Carolina—By special contract, no limit; Wisconsin—By special contract, 10.

Eight per cent., Alabama and Texas.

Ten per cent., Nebraska and Nevada—By special contract, any rate; Oregon—By special contract in writing, 12; in Florida there is no limit.

HOW TO TRANSACT BUSINESS WITH A BANK.

“If you are a stranger to the officers, and wish to open an account, get some respectable person who is known to them to introduce you either to the president or cashier. Do not ask him to vouch for anything beyond your integrity and fairness in dealing. Tell your own story about capital, business prosperity, and other matters which pertain to your commercial prospects, and exaggerate nothing. There is nothing that will recoil upon yourself so surely as an attempt to palm off big tales upon a bank officer.

“Borrow no money of your neighbors to swell your first deposits.

“Let your intercourse with the officers be candid and respectful, and be sparing in your personal solicitations for discounts. Choose the earlier hours of the day for your interviews, and especially avoid the last hour before three o'clock.

“Write your signature with the same freedom that you do in your own office, and never vary the style of it.

“Make your deposits as early in the day as possible. If you are accustomed to have many checks or large packages of bank bills, it is better to make two deposits—one at an early hour—than to hand all in just at three o'clock.

“Never get angry if the paying teller examines your account before certifying your check. Make it a rule to give checks only out of your own check-book at your own office.

“Never give your checks dated ahead. Keep your check-books out of sight and reach of strangers. Never give a stranger a check unless you have some evidence that he is not seeking it for fraudulent purposes. Never draw checks against your own account on the ground that you have sent some abroad that will not return immediately. Always consider a check paid when you give it out.

“Do not put off the offering of notes for discount until the last day of your need. It is better to keep from ten days to a fortnight ahead, and to let your balances remain in the bank until you require them.

“If the bank ledger shows a larger balance in your favor at any time than your own check, acquaint the bookkeeper with it immediately.

“If you have any cause of complaint against the clerks, state it directly to the officers.

SADDLERY HARDWARE

AND

CARRIAGE MATERIALS

Of Every Description.

Horse Clothing,

Linen Sheets,

Lap Robes,

Dusters,

AND

ALL HORSE REQUISITES.

AGENTS FOR

KENDALL'S SPAVIN CURE.

CONRAD B. DAY & CO.,

No. 38 NORTH THIRD STREET,

PHILADELPHIA.

ESTABLISHED 1826.

C. S. OSBORNE & Co.,

MANUFACTURERS OF

FINE

HARNESS MAKERS'



TOOLS,

96 MECHANIC STREET, NEWARK, N. J.

MEDAL OF EXCELLENCE OF AMERICAN INSTITUTE, 1877.

ONLY CENTENNIAL AWARD FOR SADDLE TOOLS, 1876.

~~Be~~ To avoid DECEPTION see that each Tool is
STAMPED WITH OUR NAME in full.

HARD-RUBBER HARNESS TRIMMINGS AND THEIR INVENTOR.



[ANDREW ALBRIGHT.]

The history of many inventions is so closely identified with the lives of the inventors that a written history of either would be incomplete without that of the other. In none is this more true than with that of Hard-Rubber Coated Harness trimmings, the invention of Mr. Andrew Albright, of Newark, N. J., whose portrait is produced herewith.

Mr. Albright was born in June, 1831, in the town of Dryden, Tompkins Co., N. Y. His father was among the earliest settlers of the town, having removed to Dryden from Belvidere, Sussex Co., N. J., in the year 1818, and at the time of his death, which occurred about seven years ago, he was ranked among the wealthiest farmers of the County. The boyhood days of Andrew did not differ from those of other farmers' sons. There was the three months' schooling in the summer, while too young to work, and three months' in the winter. But he, like most other boys under like circumstances, thought quite as much of spending the time, when re-

leased from labor on the farm, in hunting and other sports of country life, as in attending school. He, however, graduated from the little district school at the age of sixteen, and until about the year 1866 he lived the life of a well-to-do farmer, a calling for which, however, he had no peculiar liking. While using a harness trimmed with leather-covered mountings, the covering of which had become soiled and ragged, he was led to investigate the subject, to find, if possible, a substitute for the leather. To this little circumstance can be attributed the introduction of rubber-covered mountings. Those who are so fond of repeating the adage, "There is nothing like leather," will find here another proof of the truth of their saying, though, perhaps, not of just such a character as they could wish, as it was the lack of durability in the leather that suggested the idea of finding a substitute of a more substantial character. In November of 1866 this idea took a practical shape, and from that time until the present hard-rubber harness mountings and Andrew Albright were as one. But success was not obtained without a struggle. He commenced without any knowledge whatever of the manufacture of saddlery hardware, or the manipulation of rubber, either raw or vulcanized. Early in 1867 he went to New Brunswick, N. J., and commenced experimenting in the Novelty Rubber Company's factory of that city. Opposition beset him on every side. Experts in the manufacture of rubber pronounced his project a visionary one, and liberal compensation was demanded for everything that was done. Surrounded by, and in a measure dependent upon, so many who were skeptical, it required an energy possessed by but few to carry forward his purpose.

It was necessary that he should procure a license to use vulcanized rubber. He accordingly applied to Mr. David A. Ropes, Vice-President of the India Rubber Comb Co., who had charge of the license department, under the Goodyear patents. This gentleman was looked upon as authority upon all subjects pertaining to vulcanized rubber; he ridiculed the idea of covering mountings with that material, claiming that they would be valueless for general use, and was unwilling to grant a license to use the rubber; he, however, instructed Mr. Schlesinger, superintendent of the Rubber Comb Co.'s Works, at College Point, L. I., to examine into the practicability of the scheme. This gentleman ranks high among experts in his line, and after a series of the most careful experiments, he pronounced against the covering of harness mountings with this material. Opposition of this kind, though from the highest authorities, had no effect upon Mr. Albright except, perhaps, to stimulate him to further efforts; he persevered, procured his license to use the rubber, and night and day without friends to encourage him, deserted by those who could render him pecuniary assistance, often without money enough to purchase some needed articles, though of trifling value, opposed by every rubber expert and skilled operator, he worked on, never doubting ultimate success, under circumstances that would have caused men of less determination and faith to have yielded to what appeared to be a necessity, and leave to others more fortunately situated the task of completing what he had begun. Six months passed before satisfactory goods were produced; in the mean time he had taken out his first patent, which was dated Feb. 12, 1867, and was now ready to manufacture rubber-coated mountings for the trade; but all obstacles were not yet overcome. Harness manufacturers were unwilling to buy them, having no faith in their durability, and it was only by presenting them with the mountings that they could at best be induced to use them, but the man who had the energy and perseverance to overcome obstacles in manufacture, such as he encountered, was not the one to halt on the threshold of success; the goods were in the market and introduced they must be, though no immediate return be received. Two sets were presented to E. Van Antwerp, of Newark, N. J., who made them up into harness, and sold them to W. P. Sargent & Co., of Boston, who sold them in that city, they being the first rubber mounted harness put upon the market. Shortly afterward another set was presented to Mr. J. Davy, also of Newark, who made it up in fine harness. The first set sold by Mr. Albright was purchased by a New York broker, who had them made up into a harness for his own use. By the most persistent efforts, the sales of the first six months amounted to less than \$800 in value. Those of the first half of 1868 reached \$8,000, of the full year \$20,000; during the third year this run up to \$55,000, since which time they have steadily increased, having by their superior

quality worked their way into every part of our country, also in England, Australia and the South American States.

Having succeeded in producing desirable goods and convincing the trade of their value, the next step was to reduce the cost of manufacture. How well he succeeded in this may be inferred from the fact that when the Novelty Rubber Company covered the castings they charged 10 cents each for $\frac{1}{2}$ -inch wire rings and buckles; 20 cents each for 1-inch trace buckles; 24 cents each for inch wire terrets; 75 cents each for oval fly hooks; and up as high as \$1 40 each for Grant fly hooks, to which charges were added the metal forms, plating, etc. To overcome the heavy cost which stood as a barrier that would prevent these goods coming into the market was no small task. The old workers in rubber supposed that they had reached perfection in the art of its manufacture, but too much hand labor was needed, and Mr. Albright devised steel dies of peculiar construction by which a great amount of labor was saved, and a more uniform and well finished article produced. Throughout the entire factory ingenious machinery was introduced, and improvements made which so far reduced the cost of production that some articles are now retailed at about what it cost to cover them with rubber when they were first put on the market.

Like other patentees of valuable inventions, Mr. Albright found it necessary to defend himself in the Courts against what he held to be infringements. The most important was that of the Celluloid Harness Trimming Co., and several suits have been in progress for three years past. Both parties were sanguine, both were persistent and sbrewd, and a better fought contest has seldom been had in our Patent Courts. Last Fall Judge Nixon decided in favor of Mr. Albright on the suit for infringing his die patents, and since that time negotiations have been held which resulted in the consolidation. In the formation of the Company Mr. Albright was chosen President, and the future of this branch of trade is encouraging in the extreme.

Mr. Albright is also a partner in the new firm of Samuel E. Tompkins, Cahoon & Co., manufacturers of saddle trees, pads, gig saddles, etc. He also owns a half interest in the Tank Car patents, for transporting oil in bulk—a change in transportation that has reduced the cost in freight alone 10 cents a barrel, besides effecting a great saving in the loss from leakage, etc. He has recently commenced suit against the Pennsylvania Railroad Company and the Empire Transportation Company for infringements on this patent.

Mr. Albright is now in the prime of life, possessed of a good constitution and an indomitable will; perseverance that knows no such word as fail; a sanguine temperament and full faith in his undertakings. He is destined to hold high rank among our manufacturers. In Newark, N. J., where he has resided since he commenced the manufacture of rubber-coated mountings, he has hosts of friends, and perhaps a few enemies, for no man with his blunt, outspoken manner and self-reliance can fail clashing ideas with others of like temperaments.

As an employer he has won the good wishes of his employees to such an extent that during all the varying stages of his legal contests they evinced the keenest interest, and congratulated him heartily at every success, and he stands to-day prominent among those manufacturers who have won the good will of their employees to such an extent that the latter evince the same spirit in the satisfactory production of the goods and prosperity of the business that they would were they pecuniarily interested. His name was among those before the Mayoralty Nominating Convention last Fall, and was strongly backed, though it was known that he did not desire a nomination. In his several business as well as public relations his opinions are much respected. From the poor struggling inventor of 1866 he has reached the position of a manufacturer of wealth; his home surroundings show him to be a man of public spirit and taste, and a liberal patron of the arts, his collection of paintings and choice morceaus being among the best in the city.

And now a word in regard to the product so successfully introduced by him. At every public exhibition where his goods were displayed, from the first exhibit at the American Institute Fair in 1867 to the late grand Centennial Exhibition, medals of a high order have been awarded him. Manufacturers and dealers in large numbers have spoken in the highest

praise of his goods, and authorized him to make such use of their statements as he saw fit.

Henry Dunn & Son, wholesale harness manufacturers, of Portland, Me., say: "The first to introduce these trimmings in this city and vicinity, it gives us pleasure to note the increasing demand yearly and we recommend the rubber coated harness trimmings as the greatest improvement of the age for mounting harness."

Loughrey & Frew, wholesale harness manufacturers, Pittsburg, Pa., say: "The entire freedom from rust or tarnish when the mounting becomes old, and its rather increasing than diminishing in its jet black luster with age is another strong point. In fact, were we deprived of its use, and compelled to go back to the old style of mountings we would be completely overturned."

French & Coffin, importers and jobbers of saddlery hardware and carriage trimmings, Boston, Mass., say: "Having sold the rubber coated harness trimmings for several years, with entire satisfaction to our customers, we have no hesitation in saying that we consider them the most elegant and durable harness mountings manufactured."

Hiram Whittington & Co., importers and manufacturers of saddlery and carriage hardware, etc., of Boston, Mass., say: "We can safely recommend them as the best harness trimmings now in use."

C. M. Moseman & Bro., harness, saddles, horse clothing and horse furnishing goods, New York, say: "We have recommended them up to the highest standard, knowing they will stand equal to anything that we could say about them, and I find by my own personal use of the trimmings for harness, they are far superior to any other article I know of, both for looks and durability."

Sargeant Manufacturing Co., manufacturers of saddlery hardware, etc., Newark, N. J., say: "We have sold 'rubber coated harness trimmings' for six years with entire satisfaction, and have always recommended them."

Tompkins & Mandeville, wholesale harness manufacturers, Newark, N. J., say: "Have used a set of track harness three years with your mountings and then sold the harness with the mounting as good as when we took it out of the shop. We use the rubber trimmings on most all of our fine harness."

C. B. Smith & Co., general jobbers of harness, saddles, etc., New York, say: "They have given entire and universal satisfaction."

Messrs. James R. Hill & Co., Concord Harness and Collar Manufactory, Concord, N. H., say: "A mounting chaste and neat in appearance, artistic in design, and possessing great durability."

As a fitting sequel we add the following from the last number of the *British Quarterly Review*, a publication that would be slow to recommend American manufactures if not of a greatly superior quality or design to those of English production:

"It was only the other day that the member of a New York firm passed through London on his way to continental cities. He had already done India, China, Japan and Australia with his patterns for materials which enter into the construction of carriages, such as spokes, hubs, bolts, leathers, etc., so that we have in competition with us not only the New York carriage builder, but the manufacturer of material to send ready to the colonial constructor at Melbourne and Sydney. And if the orders obtained (of the number of which he did not seem to complain) were executed according to sample, it was certainly not cheap clocks or wooden nutmegs that he had been attempting to supply. Indeed, in one case he had been seeking orders for certain buckles, rings, terrets, hames, etc., which would raise the price of any harness where they might be used from 25 to 75 per cent., and this for ornamental as well as strictly useful purposes. And that this word ornamental may not be mistaken for the mere addition of garnish and expensive metals, let us add, in all fairness to the American, that the principle of these mountings involved the manufacture of the neatest as well as the most durable harness, for the metallic parts that we have yet seen—inasmuch as all metal was covered by a durable rubber coating, and neatness and solidity were obtained far beyond anything yet presented in this kingdom of good harness work."

The gentleman alluded to above is Mr. Beach, a member of the firm of Gifford & Beach, New York, who are the exclusive agents of the Rubber and Celluloid Covered Harness Mounting Co., for all foreign countries.

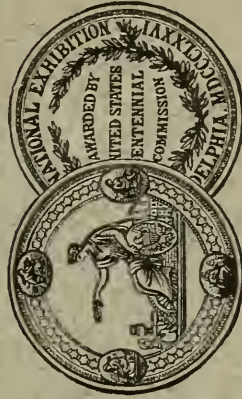
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